

Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 7/7): 45,682 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

- Weekly Range at Mid-C: \$37.3 – 44.3 per MWh, Ave. = \$41.8
- Approximate change from previous week \$-2.5 per MWh
- “Normal” price range, before 5/00 \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$39.06 per barrel (year ago: \$30.22)
- Seattle gasoline price (7/7) \$2.09 per gallon (year ago \$1.64),
- Natural gas, Sumas Hub: \$4.94 per million British Thermal Units (year ago \$4.46)
- Approximate change from last week. Oil: 3.14 \$ per barrel; Nat. gas: +0.26 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o A transmission emergency was declared May 3 in So. Cal.: Voluntary curtailment was requested
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o Parsing California’s gas prices (NYT, July 1)
- o FTC probing Shell’s plan to shut refinery (LA Times, July 8)
- o Debate rages over rewards, risks of liquid natural gas ports (Sac. Bee, July 6)

5. River and Snow Pack Information (Updated: July 8, 2004)

- Observed May stream flow at The Dalles: 79.5% of average,
- Observed June precipitation above The Dalles: 86% of average,
- Observed snow pack, early May: 66% of average,
- Estimated Jan.-July runoff at The Dalles: 85.1 MAF, 79% of normal,
- Federal hydropower generation in May: 9,057 aMW, 1995-2002 average: 10,368 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: July 7, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 3,125 MW
 - o Canada (exported to) 1,253 MW
 - o Net power export: 4,378 MW

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Parsing California Gas Prices

By HAL R. VARIAN NYT, July 1, 2004

Gasoline prices have finally started to fall, with the United States average declining by over 13 percent in the last month.

But California has not been as fortunate as the rest of the country. Prices there are down only 8 cents, and remain the highest in the continental United States.

Why did gas prices go up so sharply in the spring? Why did they subsequently decline? And why do California gasoline prices stay so stubbornly high?

May's surge has been widely attributed to a fear of oil supply disruptions in the Middle East. Skeptics have argued that the possibility of future disruptions should not affect current prices. After all, they argue, the oil used to manufacture the gasoline now being sold at the pump has already been bought and paid for.

But this economic analysis is flawed. Gasoline is easy to store, so if the price is expected to increase, refiners and shippers will keep more in storage, in anticipation of those higher prices. The resulting reduction in current supply will push prices up now, before any actual shortages materialize.

That's the way the market should work. If you believed that gasoline would become scarcer in a few weeks, wouldn't you want to economize on use now to ensure a larger supply in the future?

Luckily, the feared disruptions have not occurred (yet), and prices began to fall at the end of May. In addition to the reduction in worries about oil supply disruptions and the increased oil production from OPEC, increased gasoline imports, particularly from Venezuela, helped drive down prices. According to the Automobile Club of Southern California, "International refiners are like the cavalry, riding to the rescue of overcharged motorists."

Maybe so, but Californians are still getting trampled. Prices in California are 30 cents higher than the national average and much more volatile.

The economics of the California gasoline market are described in a recent study by Severin Borenstein, James Bushnell and Matthew Lewis of the University of California Energy Institute (www.ucei.org/PDF/csemwp132.pdf).

The basic problem comes down to supply and demand. California uses a special low-polluting blend of gasoline known as CaRFG (California reformulated gasoline), which is produced by only 13 in-state refineries. In 2003 these refineries produced about 15 billion gallons, a figure almost identical to the 14.8 billion gallons consumed in the state.

California's production capacity is so closely matched to its demand that even sharp increases in price result in little additional production of gasoline.

On the other side of the market, the demand for gasoline is also quite insensitive to price: a 10 percent increase in price typically reduces short-term demand by only 2 to 3 percent.

The result is that even small fluctuations in the demand or supply of CaRFG can lead to large price swings.

The market forces of supply and demand offer a reasonably convincing explanation as to why the California gasoline market is so volatile. But this may not be the entire story.

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The market is controlled by seven large suppliers, ranging from ChevronTexaco with a 27 percent share, down to ExxonMobil, which supplies 8 percent of the market. With only seven suppliers, price manipulation may also be at work.

When demand is insensitive to price and capacity is more or less fixed, sellers have mixed incentives. When prices rise, a refiner can make an immediate profit by selling more gasoline; if all suppliers sell more, the price is pushed back down. But if a few large companies withhold gasoline supplies, they can keep the price propped up for an extended period.

The authors of the report are quick to point out that they have no evidence that this has occurred. Indeed, they argue that the basic economics of the industry make it difficult to find such evidence in price and quantity movements alone.

However, they also point out that the temptation to manipulate price is certainly present, and a prudent response from Sacramento would be to enact policies that will reduce that temptation as much as possible.

It is important to recognize that it is not illegal under American antitrust laws for a supplier to withhold gasoline or any other commodity. Individual energy companies are free to produce or not produce, store or not store, as they see fit. That is the nature of a free market.

It is illegal for companies to collude to create an artificial scarcity, but collusion is extremely hard to prove.

The California economists examine various policy responses that might help reduce price volatility and mitigate the incentives to exercise market power: maintaining a strategic fuel reserve, regulating seasonal changes in gasoline mix, regulating refinery closures and using state gasoline purchases more strategically.

All these proposals have serious problems. Heavy-handed regulation can easily make supply problems worse rather than better. The goal of policy should be not to displace markets, but to make them work better.

There is one market-based measure that shows considerable promise. This is to allow the importation of non-CaRFG gasoline into the state when CaRFG is in short supply, as long as the importer pays a tax equal to the difference in cost between CaRFG and non-CaRFG (about 15 cents a gallon).

When prices in California rise, sellers would then want to import gasoline from out of state, dampening the price increase. Air pollution might go up slightly for a few weeks, but the revenue from the gas tax could be used to finance other environmental measures, like buying back old, polluting cars.

Not only would this measure help dampen price fluctuations, it would also greatly reduce the temptation to manipulate prices - since any attempt to push up the price would be met with a flood of imported gasoline. Regardless of whether you believe price spikes result from market forces or market manipulation, increasing gasoline supply when prices rise has got to be a good thing for Californians.

FTC Probing Shell's Plan to Shut Refinery

■The antitrust inquiry heightens scrutiny surrounding proposed closure of the oil firm's Bakersfield plant.

By Elizabeth Douglass, LA Times Staff Writer

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The Federal Trade Commission has launched a formal antitrust investigation into **Shell Oil Co.**'s plan to close its Bakersfield refinery, an agency official said Wednesday, stepping up scrutiny of a move that California officials believe will worsen the state's gasoline supply woes.

Meanwhile, the oil company on July 1 reduced crude oil processing at the refinery to levels 19% below capacity, according to an internal Shell document obtained by The Times and a plant employee who asked not to be identified. A Shell spokesman would not say whether the facility was running at full capacity.

Any reduction in refining capacity could create even more inflationary pressures in a market in which Californians are paying a statewide average of \$2.204 a gallon for regular gasoline, marking the 20th straight week of pump prices above \$2. Experts see little relief in sight until after Labor Day, when vacation travel falls and fuel demand slackens slightly.

Politicians, consumer groups and other critics have accused Shell of plotting to shutter the refinery to tighten gasoline and diesel supplies and, in turn, boost retail prices as well as profit at the company's two other California refineries. One is in Martinez, in the Bay Area; the other is in Wilmington.

Shell has said its decision to close the Bakersfield plant Oct. 1 was based on economic factors and crude-oil supply problems.

On Wednesday, FTC General Counsel William Kovacic took the unusual step of announcing at a congressional hearing in Washington that the commission began a formal investigation into Shell's closure plan.

"We're looking at any possible antitrust violations associated with the closure," Kovacic said after his testimony at a subcommittee hearing of the House Committee on Government Reform.

"We regard the matter as a very important one," he added, "and we know time is of the essence."

Kovacic would not say what steps the commission would take if it found Shell's move to be anti-competitive, but analysts said the FTC could block the closure or order Shell to sell the facility, among other options.

Shell spokesman Stan Mays said the company had been cooperating with the FTC for several months, but had not received any subpoenas from the commission on the Bakersfield matter.

Shell gained full ownership of the Bakersfield refinery as a condition of the FTC's approval of the 2001 merger that created **ChevronTexaco Corp.** — giving the agency further reason to explore the effects of the refinery's closure.

Sens. Barbara Boxer (D-Calif.) and Ron Wyden (D-Ore.) urged the FTC to launch a probe months ago, and had said recently that the commission was conducting an informal inquiry.

"Certainly, this is more than they've said to date," Wyden said Wednesday of the FTC's investigation. "The acid test here is whether the FTC will actually act to protect the consumer

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when they complete their inquiry."

As for the refining cutback, an internal e-mail dated July 1 ordered an immediate reduction in Bakersfield crude rates to 56,300 barrels a day, more than 19% below the plant's capacity.

No explanation was given for the reduction, and there were no problems with the plant's equipment, according to internal documents and the employee who asked not to be identified.

Shell spokesman Mays would not comment on the e-mail. Instead, he said Shell was refining more crude in Bakersfield and Martinez than it had planned back in June.

That June plan, however, called for total production in July to be more than 11% below the combined full capacity of the two refineries. Mays would not break out current production rates for the two refineries or say whether or how much that production is below capacity. "We're making as much gasoline and diesel as we can ... just as we said we would," Mays said.

Shell's Bakersfield refinery, though smaller than most others in the state, produces 2% of California's gasoline and 6% of its diesel and lately has been profitable for Shell.

Statewide demand for fuel already outstrips production at California-based refineries, and the gap grows wider in the summer months as more drivers hit the road for vacations.

Separately, an industry consultant hired by California Atty. Gen. Bill Lockyer is studying whether the plant could be sold instead of closed.

Debate rages over rewards, risks of liquefied natural gas ports

By Laura Mecoy – Sac Bee *July 6, 2004*

Amid the massive cargo-bearing ships at one of the world's busiest seaports, a Mitsubishi subsidiary wants to build California's first terminal for importing liquefied natural gas from overseas.

It claims the \$400 million facility could meet 10 percent of California's natural gas needs and help avert another energy crisis.

Opponents say terrorists or earthquakes could turn the terminal's vast stores of super-cooled gas into a mile-high fireball, destroying the port and scorching people and buildings a mile away in downtown Long Beach.

"If you are close when that happens and you are out in the open, you are doomed," said James Fay, a Massachusetts Institute of Technology professor emeritus and liquefied natural gas specialist. "No one is going to (be able to) come in and rescue those people."

The liquefied gas industry claims an outstanding safety record, tight security, strong structures, multiple government reviews and other safeguards.

"We don't believe any accident will leave our property," said Thomas Giles, chief executive officer for Sound Energy Solutions, the Mitsubishi subsidiary proposing the Long Beach terminal.

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But the possibility of monumental fires and increased reliance on foreign fuels is generating growing opposition to recent proposals to put an LNG terminal at Long Beach and three more off Southern California's coast.

Protests in Eureka and Vallejo already killed terminal proposals in those communities. Malibu's City Council voted to oppose two proposed terminals off its shores.

The California Sierra Club is fighting all the proposals and has joined 26 other environmental groups in urging the state to pursue energy efficiency instead of new energy production.

The environmental coalition plans to voice its concerns in a meeting today with state Resources Secretary Mike Chrisman and Environmental Secretary Terry Tamminen.

Chrisman said at least one terminal should be built in the state, if it can operate safely without harming the environment.

He plans a 10-day trip to Australia and South Korea later this month to tour LNG facilities.

Gov. Arnold Schwarzenegger met with Australia's prime minister about Australian firm BHP Billiton's proposal to build an import terminal 14 miles from southern Ventura County's beaches.

The governor has the power to veto offshore terminals but not the onshore one at Long Beach, a city of more than 460,000 people.

Ashley Snee, the governor's spokeswoman, said the offshore terminal is "one of the possibilities" Schwarzenegger is examining to avoid an energy crisis.

Rep. Doug Ose, R-Sacramento, is the chairman of a House of Representatives subcommittee examining the issue, and he said LNG is the best hope for substantially increasing the natural gas supply, thereby reducing gas prices.

"We have a choice between paying \$6 to \$8 per cubic foot for natural gas, or we have the opportunity to drive the price down to \$3," he said. "A \$2 difference in price equates to \$2 billion in additional costs for our homes and factories."

The higher gas prices have made the fuel competitive with domestic sources for the first time in 30 years, and energy firms have proposed more than 30 terminals in the United States.

Seven would be on the West Coast, where there are no facilities for receiving the fuel.

The fuel is natural gas turned into a highly concentrated liquid by cooling it to minus 260 degrees Fahrenheit.

Ships can carry vast quantities of gas in its liquid form and deliver it to the United States at one of four East Coast terminals.

There, heat restores it to its natural gaseous state, and it's delivered via pipeline to customers.

LNG is not flammable so long as it is liquid. But it can ignite when mixed with oxygen in concentrations of 5 percent to 15 percent.

In an uncontrolled release, the Congressional Research Service said, a pool fire could erupt that would burn hotter and faster than a gasoline or oil fire. It said the fire could be extinguished only after all the fuel was consumed.

Experts say LNG fires generate so much heat that people a half-mile from the flames could suffer severe burns. As a result, some experts have urged construction of offshore facilities.

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The Congressional Research Service said LNG released over water could create a "flameless explosion." Local residents opposed to terminals off the California coast claimed clouds of flammable gas could float onshore.

Steve Meehan, project manager for the BHP Billiton terminal, said the "largest area of potential hazard is three to four miles." The BHP terminal would be located 14 miles from shore.

Questions about the fuel's safety date back to 1944, when a Cleveland, Ohio, tank built with inferior steel ruptured and spilled LNG into the street and storm-sewer system. The gas ignited, triggering an explosion and fire that killed 128 people.

The industry uses better steel today and has reported no further tank ruptures in the United States.

It also argues its ships have made more than 33,000 trips in the past 45 years and experienced no major fires or explosions.

In January, though, an explosion and fire at an Algerian LNG production plant killed 27 people. California and federal officials said the boiler that triggered the Algerian explosion wouldn't be used in U.S. import terminals.

But the Sept. 11, 2001, terrorist attacks heightened fears of LNG terminals and ships being used as weapons by America's enemies.

The federal government shut down LNG shipments through Boston's harbor for almost a month after Sept. 11 to ensure public safety.

Opponents warn that a ship could be commandeered due to lax security. The Department of Homeland Security recently acknowledged that al-Qaida operatives linked to the failed 2000 millennium bomb plot at Los Angeles International Airport sneaked into the United States aboard Algerian LNG ships in the 1990s.

In California, LNG terminal opponents say the state could become more vulnerable to terrorists if terminals are built here.

Long Beach activist Bry Myown said the Long Beach and Los Angeles port complex is already considered a prime terrorism target. She said an LNG terminal would give America's enemies a powerful weapon because of all the volatile products at the port.

"If anything blows up in that port ... it would set off a chain-reaction fire," she said.

Fay, the MIT professor emeritus, said a small bomb-laden boat - like the one used in the October 2000 terrorist attack on the USS Cole in Yemen - could blow a hole in the side of an LNG tanker.

He said LNG is so highly concentrated and stored and shipped in such large volumes that it holds more potential firepower than other chemicals and petroleum products.

Mark Robinson, the director of the Federal Energy Regulatory Commission's office of energy projects, said the agency would evaluate all these concerns in deciding whether to permit the Long Beach terminal.

"Safety is the No. 1 concern of the commission," he said.

Robinson said Coast Guard officials guard against terrorism by inspecting LNG tankers and escorting them into port. He said his agency also seeks to protect the public by limiting its exposure to accidents at onshore facilities.

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In addition, he said LNG structures are "robust": The ships are double-hulled, and the storage tanks are encased in concrete.

Opponents of the Long Beach terminal fear those structures still wouldn't be strong enough to withstand a major earthquake.

Several earthquake faults are nearby, and the terminal would be built on landfill that a temblor can turn into liquid.

"That could cause the structures to collapse, just like they did in the 1989 earthquake in San Francisco's Marina District," said Harvey Y. Morris, the California Public Utilities Commission's principal counsel.

Giles, the executive advocating the Long Beach terminal, said seismic experts would ensure the terminal is safe. He said Japan has 20 LNG terminals, and none suffered damage in the 7.2 Kobe earthquake in 1995.

Long Beach activists have reached out to environmental groups around the state to argue that all the LNG proposals could impede California's efforts to increase energy efficiency, conservation and alternative fuel usage.

"We're not interested in exporting fossil fuels from Third World countries," said Bill Allayaud, California Sierra Club legislative director. "The Sierra Club stands for conservation."

Other environmental activists also pointed out that LNG wouldn't arrive in California for another three to four years under the various project's timelines - and that might be too late to avoid the next energy crisis.

For Long Beach, though, the proposed terminal would bring cheaper natural gas to heat homes, increased income to the city and the port and clean-burning LNG for their public vehicles.

As a result, the port, some labor groups and some local officials have embraced it.

Fuel Prices

Gasoline prices declined 3 cents/gal over the last week to a state average of \$2.07/gal. while diesel remained about the same at \$2.13/gal. Gasoline and diesel prices have fallen 23 cents/gal and 15 cents/gal respectively over the last seven weeks. The decline is due in part to lower crude oil prices and higher stocks of refined petroleum products.

Summary of CEC/WIEB Natural Gas Assessment Workshop

The California Energy Commission (CEC) and Western Interstate Energy Board (WIEB) held a joint workshop on Tuesday, June 29, 2004, regarding the joint Western Natural Gas Assessment (Assessment). This Assessment will be prepared by the WIEB, CEC, and energy officials from the western U.S. states and Canadian provinces. The Assessment stems from the Western Governors Association (WGA) amended energy roadmap resolution, which calls for a review of the adequacy of natural gas resources for residential, commercial and industrial sectors in the western states.

The purpose of the workshop was to discuss the scope of the project, proposed assumptions, data, and methodologies used to perform the analyses. The Assessment will focus on the North American natural gas pipeline system, with an emphasis on the three western Canadian provinces (British Columbia, Alberta, and Saskatchewan), the western United States, and Northern Mexico. All natural gas consuming sectors will be analyzed: residential, commercial, industrial, and electricity generation. The Assessment will contribute to the analysis of electricity resource adequacy to assist in determining the sufficiency of natural gas supplies and infrastructure to serve natural gas-fired electricity generation.

The Assessment will be conducted in two phases. The first phase will examine the natural gas market with a long-term 10-year annual outlook; the second phase will examine the seasonal and short-term market in shorter intervals. The first phase will be completed by mid summer 2005, the second phase by the end of 2005 or early 2006.

The Assessment will be carried out by the CEC using the North American Regional Gas (NARG) model, which is a general equilibrium model. Meeting participants consisted of state energy officials, energy company representatives, consumer advocacy groups, and trade groups, and were given a general overview by CEC staff of the model, including a description of inputs, variables, etc. The Western Resource Adequacy Team (WRAT) will also be participating in the Assessment, primarily focusing on electricity generation by natural gas. A consultant that has helped CEC implement the model gave further details of the history and inner details of the NARG model. The model relies on data from the National Petroleum Council (NPC) and the Energy Information Administration (EIA). Meeting participants were asked to provide any additional or more detailed information on natural gas supply, demand, and transport within their states, provinces or service areas. The WIEB and CEC staff will have the option of incorporating the new information, or using the EIA and NPC data.

The primary areas of discussion were:

- How is electricity generation integrated into the NARG model (external variable – iterative steps)?
- What degree of displacement of natural gas by coal in electricity generation.
- Role of Liquefied Natural Gas in west coast natural gas market.
- Are efficiency and renewables fully integrated into NPC/EIA analyses?
- How many scenarios to explore (2 to 4).
- Sensitivities to analyze (several).
- What information can states/provinces, or interested parties supply.

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4. Energy News Headlines from around the Nation

- o Lay's firm symbolized state's woes (Sac Bee, July 9)
- o For many low-income workers, high gasoline prices take a toll (WSJ, July 12)
- o Sell now, pay later (WSJ, July 12)

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Lay's firm symbolized state woes

As energy crisis worsened, the CEO urged officials to raise customers' rates.

By Dale Kasler, Sac. Bee, July 9, 2004

Kenneth Lay's company was the god-father of electricity deregulation in California and, eventually, the symbol of everything that went wrong.

Although the indictment of Lay unsealed Thursday focused on his ties to the accounting scandal that sank Enron Corp., officials in California were quick to recall Enron's role in the state's energy crisis. They said Lay's indictment doesn't bring the story to a satisfactory conclusion. The criminal charges "will not put money back in the pockets of ratepayers," former Gov. Gray Davis said in an interview.

Enron officials lobbied California officials feverishly in the early and mid-1990s, preaching the virtues of free-market energy and warning that the state's economy would stagnate if it clung to the traditional, regulated electricity system. "The patient is on the ground bleeding," Lay protege and one-time Enron Chief Executive Jeffrey Skilling told the Public Utilities Commission in 1994.

When deregulation came apart in 2000 and 2001, producing rolling blackouts and crushing the state's big utilities with billions of dollars in debts, Lay urged California to stay the course. Deregulation would work, he argued in meetings with California officials.

In an interview with The Bee at the height of the crisis, he said there was an obvious cure for rolling blackouts: raise customer rates. "Price signals need to be allowed ... for people to understand there is a shortage," he said in the February 2001 interview.

Lay also made the case for continued deregulation in a secret Beverly Hills meeting in 2001 with influential Californians like future Gov. Arnold Schwarzenegger - a meeting revealed later to great fanfare.

Lay became a lightning rod for criticism by state officials. Attorney General Bill Lockyer, in a Wall Street Journal interview in 2001, said, "I would love to personally escort Lay to an 8-by-10 cell that he could share with a tattooed dude who says, 'Hi, my name is Spike, honey.' " Discussing Lay's indictment this week, Lockyer said he made the comment after Davis asked him to "turn up the heat" on energy companies as California attempted to renegotiate a better deal on power.

Yet Lay was so influential that even as Davis feuded with Enron and other out-of-state energy companies and blamed them for high prices, Davis often called on Lay for consultation. Davis' then-spokesman Steve Maviglio said Davis spoke with Lay more than any other energy executive.

On Thursday, Davis said he eventually concluded that Lay "either was not on top of things at Enron or was being duplicitous."

Following the accounting scandal that forced Enron to file for bankruptcy protection, federal officials disclosed internal company memos showing that Enron had concocted a variety of trading schemes, with colorful nicknames like "Ricochet" and "Death Star," designed to manipulate prices in California.

The schemes exploited loopholes in the state's porous electricity system. For instance, the company arranged to buy electricity in California, sell it to someone outside the state and then re-import it. That enabled Enron to evade the state's price ceilings, which didn't apply to energy coming from out of state.

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Two former Enron traders, Timothy Belden and Jeffrey Richter, have pleaded guilty to charges of manipulating Western electricity markets. A third, John Forney, is due to go on trial this fall.

Recently unearthed audiotapes of Enron phone calls show the company's traders joking about gouging "those poor grandmothers in California."

On one of the tapes, an Enron official talks about informing Lay and Skilling about her work in persuading California to delay a plan to reduce the price ceiling on electricity. But it wasn't clear if the top two Enron executives were aware of the trading schemes.

A conglomerate with multiple businesses, Enron's California ties included a Bakersfield-area wind farm, a failed attempt to build a for-profit "water bank" in the San Joaquin Valley and an investment partnership with the California Public Employees' Retirement System that led indirectly to an indictment against former Enron Chief Financial Officer Andrew Fastow.

When CalPERS wanted to cash out its investment in the partnership, Fastow created an entity called Chewco Investments to pay off CalPERS. Prosecutors later charged that Chewco was among the largest units Enron created to hide billions in debts from the public. It was the revelation of those partnerships that sank Enron financially in late 2001. Fastow pleaded guilty to criminal charges in early 2004.

California officials continue to pursue Enron. Lockyer is suing Enron, saying its market manipulations cost the state dearly. In a separate case, the state is seeking \$70 million in refunds from the company, part of a lengthy proceeding at the Federal Energy Regulatory Commission in which the state says it is owed \$9 billion in refunds from a wide range of energy providers.

FERC has indicated it will order refunds of about \$3 billion, and Severin Borenstein, director of the University of California Energy Institute, said this week's indictment of Lay won't affect FERC's opinions one bit. The indictment "isn't about the California electricity crisis," he said.

But Lockyer and Davis said the Lay indictment might make FERC more forthcoming.

"I'm not going to be personally vindicated until the Federal Energy Regulatory Commission orders \$9 billion in refunds," said Davis, whose political standing started faltering during the crisis.

For Many Low-Income Workers, High Gasoline Prices Take a Toll **Commuters on Tight Budgets Pay Big Chunk of Earnings. Driving to Far-Flung Jobs** **Thirty Miles to Krispy Kreme**

By JEFFREY BALL, WSJ, July 12

Denise Quenneville drives 30 miles each way to her \$7-an-hour job as a cashier at a Krispy Kreme doughnut shop here. With this year's surge in gas prices, she's paying \$23 every couple of days to fill up her car, up from about \$19 a year ago.

"A \$4 difference is a lot," says Ms. Quenneville, who now is pouring about a quarter of her take-home pay into the tank of her blue 2000 Oldsmobile Alero. To keep her car on the road, the 19-year-old has run up a balance of about \$500 on her gas-company credit card.

The cost of gas, currently averaging \$1.89 a gallon nationwide, is creating a new burden for everyone who drives a car. But the toll is particularly heavy among low-income workers, for whom higher gas prices amount to a palpable pay cut.

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The pain at the pump only intensifies a deeper problem for America's low-paid workers: sprawl. In dispersed metropolitan areas like Tampa, the new jobs often are far from the affordable housing. Public transit isn't a viable option because it isn't keeping up with the growth. That leaves low-income workers with little choice but to shoulder the cost of a car -- and, when the price of gas shoots up, to bear it.

The postwar modern American city was built on a foundation of cheap gas that allows even low-paid workers to drive to and from their jobs. Take away the cheap gas and the foundation begins to crack.

"We've always known that sprawl has a cost," says Bruce Katz, an urban-policy analyst at the Brookings Institution, a Washington think tank. "But now we're seeing it, as a result of higher gas prices, in a visceral way."

In Tampa, as in many American metropolitan areas, a hop-scotch pattern of land development shows no signs of abating. Since 2001, the opening of the Suncoast Parkway, a state toll road that extends a highway link 57 miles north of the city, where a one-way trip costs about \$5, has lured residential development out to a new frontier of once-rural counties. The houses in the subdivisions sprouting near the new highway's interchanges often cost tens of thousands of dollars less than comparable homes closer to the city. But jobs haven't moved that far out in large numbers. The result: Some of the residents of these subdivisions drive 100 miles or more each day to and from their jobs in and around Tampa.

Such megacommutes are growing more common, in metropolitan areas from Washington to Houston to Los Angeles. In the Detroit region, the daily commute is extending as far out as Genesee County, which includes Flint, about 60 miles north of downtown Detroit. People who work in Detroit or nearby Oakland County, immediately north of the city, are moving out to Genesee because housing is cheaper there. At the same time, longtime Genesee residents who lost their jobs as a result of General Motors Corp.'s downsizing in Flint are commuting in greater numbers to jobs nearer Detroit. Genesee does have a limited bus system that connects to Oakland County. But most workers get in their cars, steer onto Interstate 75, and drive.

Some say the solution to this transportation problem is more mass transit. Others argue that building such systems would be prohibitively expensive in already-sprawling metropolitan areas. They say a more practical answer is federal subsidies to help the poor buy cars.

Today, even among those U.S. households earning less than \$15,000 a year, about three-quarters own cars. The cost -- of car payments, insurance premiums and gasoline -- represents a bigger financial hit for those whose wallets are thinner. Moreover, those with lower incomes are likelier to be driving older, less-fuel-efficient cars and trucks, further intensifying the sting of higher gas prices. According to a report last year from the U.S. Department of Transportation, individuals with annual incomes of less than \$8,000 spent nearly 10% of their incomes commuting in 1999. Those with incomes of \$45,000 or more spent just 2%.

The average U.S. price of a gallon of regular unleaded gasoline topped \$2 this spring for the first time. That's cheaper in inflation-adjusted terms than during the price peaks of the early 1980s, and prices have begun to fall over the past month. But at \$1.89, the average price still is up 40 cents, or 27%, from a year ago.

At that level, assuming a car travels 15,000 miles a year, which is typical, and gets 21 miles per gallon, approximately the national average, its driver will spend \$1,350 annually on gas, or \$286

more than last year. Families that need two or three cars to get around, as many do, could be spending \$3,000 or \$4,000 a year on gas.

That may be tolerable for a family making \$100,000 a year or more. But for a family scraping by on \$19,000, roughly the federal poverty line for a family of four, it hurts. One indication: Wal-

GETTING THERE

Average transportation spending as percentage of total household spending, 2001-2002

RANK	METRO AREA	
1	Tampa	23.2%
2	Denver	20.6
3	Cleveland and Houston	20.1
4	Dallas-Fort Worth and Seattle	20.0
5	Detroit	19.9
...	U.S. average	19.2
24	Portland, Ore.	16.1
25	Philadelphia	16.0
26	Washington	15.8
27	New York	15.3
28	Baltimore	13.2

Sources: Surface Transportation Policy Project; U.S. Bureau of Labor Statistics

Mart Stores Inc. expressed concern this spring that higher gas prices were taking \$7 a week out of the wallet of its average customer. Despite the partial falloff in gas prices since then, the nation's biggest retailer says it continues to expect pump prices to crimp its customers' purchasing power.

The crunch is particularly visible in Tampa, an urban agglomeration on the west coast of Florida that's more often associated with golf resorts and retirement communities than low-income commuters. According to federal figures, in 2001 and 2002, the most recent years for which statistics are available, 23.2% of total spending by the average household in the Tampa region went to transportation, a higher percentage than in any of the other 27 metropolitan areas surveyed by the government. That amounted to \$8,850 -- more than the average Tampa household spent on shelter. The federal figures were compiled by the Surface Transportation Policy Project, a Washington-based group that wants the government to spend more on mass transit and other alternatives to driving.

Tampa is the victim of a double-whammy. First, the pretax income of the average family in the Tampa region, at \$53,091, is lower than the average of the 28 metro areas surveyed by the federal government, at \$56,653. That's the result, in part, of a regional economy that relies heavily on lower-wage jobs in the tourist industry and in back-office corporate operations such as call centers. "We pay in sunshine," goes a local saying.

Second, getting around the Tampa region -- which includes the cities of Tampa, St. Petersburg and Clearwater -- requires a lot of driving. Fully

75% of jobs in the region are located more than 10 miles from the Tampa city center, according to a study released in 2001 by the Brookings Institution. Only the Detroit and Napa, Calif., regions have a higher portion of jobs that far from the city center: 78%, according to the study. In the Los Angeles region, the supposed poster child of suburban sprawl, just 62% of jobs are more than 10 miles from the city center.

Robin Williams, 34, lives in Wesley Chapel, a burgeoning community along the Tampa region's other main growth corridor, Interstate 75, which roughly parallels the Suncoast Parkway to the east. She drives 54 miles round-trip in her 1999 Dodge pickup truck to and from her job as a manager in the jewelry department of a Wal-Mart store in Tampa. She earns \$13.65 an hour, or about \$26,000 a year.

Her truck gets seven to eight miles per gallon. That means that, every day, Ms. Williams burns through about six gallons of gas -- nearly \$12 at current prices -- just getting to and from her job.

"It is crazy," says Ms. Williams. In the next month, she and her family plan to move to Ohio, partly because she figures that there she'll be able to afford to live closer to work.

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Public transportation isn't an option for Ms. Williams. Tampa's bus system doesn't go north beyond Hillsborough County, which includes the city. Ms. Williams lives north of that line, in Pasco County.

A proposal for a light-rail system that would serve the farther-flung areas of the Tampa region has languished on the drawing board for several years. Even where the buses do operate, there's only minimal service after 8:30 p.m. and on holidays.

In Tampa, as in many U.S. cities, the transit system is stuck in a downward spiral. Most people who ride the buses have no other choice, and don't have the political clout to push for significantly better service. But unless the service improves, it won't attract residents who have other options. So, as the growth and jobs push farther out, the bus system becomes less and less relevant.

Only about 1.5% of all trips in Hillsborough County are by public transit. Most of the rest are by car. About 5% of all trips in Hillsborough County pass through a single highway interchange, the crossing of Interstate 75 and Interstate 4, about seven miles east of downtown. The spot is known locally as "Malfunction Junction" because of its rush-hour tie ups.

"It's very difficult to have good transit service when stuff is spread out like a thin coat of peanut butter across the horizon," says Ed Crawford, who is public liaison for the bus system, Hillsborough Area Regional Transit. He rides a motorcycle to work. "We have multiple cores and mostly suburban bedroom communities. As a consequence, people are forced to drive," he says.

Some experts see benefits in sprawl. Steven E. Polzin, a research professor at a transportation institute at the University of South Florida, in Tampa, says it spreads jobs throughout a region, putting them closer to where people live. "If the population is sprawled, the sprawling of jobs is not only logical, but potentially more efficient," he says.

Tampa has been spread out ever since its modern growth spurt began following World War II. Initially, the lack of easy mobility was an attraction: Retired auto and other factory workers from the Midwest began moving down to the region in large numbers in the 1950s and 1960s. They were wooed by land that was cheaper than on Florida's east coast in part because Tampa didn't have an interstate-highway connection.

By 1985, growth across Florida had reached such a fever pitch that the legislature decided to apply the brakes. Lawmakers ordered local governments to come up with plans to ensure that development didn't outpace the construction of new roads and other infrastructure.

Today, critics say those growth restrictions had a perverse effect: They have intensified sprawl. As in many other fast-growing areas across the country, various counties and cities in the Tampa region each produced their own growth plans, which the critics say weren't fully coordinated across the region. Developers found that building the required roads, sewers and other infrastructure was cheaper in the rural counties than in the already-urbanized ones. The upshot: The plans encouraged growth to spread even farther out from Tampa.

The uneven pattern of development is visible on a drive north from Tampa along Interstate 75. The urbanized core of Hillsborough County gives way to a largely undeveloped periphery, but then, at the line where Hillsborough County ends and Pasco County begins, the development resumes.

How to superimpose a viable public-transit system over such a dispersed region -- and how to pay for it -- is a question Tampa leaders have been debating for years. "The state and local officials have both passed the buck on this, back and forth," says Bob Henriquez, a Democratic state representative from Tampa. "Neither of us wants to take the bullet."

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Caught in the crossfire are low-wage workers in the region who have little choice but to drive long distances between home and work. Some, like Ms. Quenneville and Ms. Williams, live on the northern fringe and drive south, toward the city center, to their jobs.

Others live on that northern edge and drive even farther north to work. John Bryant lives in Brooksville, near the northern terminus of the Suncoast Parkway, and drives 80 miles round-trip each day to work at a cement plant where he makes \$11.87 an hour.

Twice a week, Mr. Bryant, 39, spends \$40 to fill up his 1982 Dodge pickup. With gas prices higher, he says, he has been buying less beef. "Chicken's the cheapest thing out there," he explains.

Earline Byrd, 50, lives near downtown Tampa. Her \$11-an-hour job assembling aircraft-lighting systems at a Goodrich Corp. plant is about 15 miles to the west, in neighboring Pinellas County. Every four days, she fills up her 1996 GMC Jimmy sport-utility vehicle, paying about \$30, up from about \$20 several months ago.

Ms. Byrd says she's trying to cut down on driving as much as she can. She's scheduling doctor's appointments, for instance, on the way home from work rather than at other times. Sometimes she makes more significant sacrifices, such as holding off buying groceries until her next paycheck. "There's some times in there where I can't afford to go to the store because I have to go back and forth to work," says Ms. Byrd, who supports her 19-year-old son. "It's life."

At Ms. Byrd's church, New Smyrna Full Gospel Worship Center, the effect of high gas prices is felt every Sunday. The church van, which normally ferries members to and from services, has sat idle for more than a month because the congregation can't afford to keep it fueled up.

"You take a tight economy and run up the price of gas and something's got to give," says Rev. Willard L. Lee, the church's senior pastor. "Regardless of your income, when you drive up to the pump, you're paying the same thing."

Using that logic, Mr. Henriquez, the state legislator from Tampa, sponsored a proposal this spring to cut Florida's state gas tax by 10 cents a gallon during August, a peak travel month.

His proposal drew opposition from road builders and environmental activists. The opponents noted that the one-month gas-tax cut would deprive the state of \$60 million to \$80 million in tax revenue that could be spent on a variety of transportation projects. The road builders wanted to keep laying asphalt. The environmentalists argued that high gas prices would be beneficial because they would encourage people to drive less.

"Bob, this is the dumbest thing you ever did," Mr. Crawford, the Tampa bus-system official, recalls telling Mr. Henriquez, whom he counts as a friend.

But Mr. Henriquez's proposal proved hugely popular with voters. Last month, with the 10-cent cut trimmed to eight cents to reduce the revenue hit, Gov. Jeb Bush signed the August tax break into law.

Mr. Henriquez, a house-painter's son who graduated from Princeton University and later worked for the Hillsborough County planning department, admits a one-month easing of the gas tax won't significantly improve life for low-income residents who will have to keep operating their cars long after the reprieve expires.

"It really is a short-term fix to a long-term problem," Mr. Henriquez says. "I think we all understood that -- or should have understood that."

Sell Now, Pay Later?

Joseph White, WSJ, *July 12, 2004*

This is summer vacation time for most of the big car companies, but that doesn't necessarily mean anyone in the business can relax.

The past week illustrated just how tough it is going to be for the industry to balance the tension between short- and long-term problems. In America, still the world's biggest car market, the short-term difficulty is reviving demand after disappointing June sales results. To prop up demand for the sport-utility vehicles that sustain their profits, General Motors Corp. and Ford Motor Co. last week tacked on rebates of up to \$5,000 a truck. The new round of discounts from the Big Two officially kick off the "summer selldown" season, which is simply a push to make short-term calendar and model-year sales goals and clear the way for 2005 models coming in the fall.

Meanwhile, two events last week, one in California and one on Wall Street, offered reminders that the car business can't afford to ignore the long view.

In California, which accounts for about 12% of new U.S. vehicle registrations annually, regulators at the California Air Resources Board, or CARB, held a public meeting to discuss a draft of regulations that would compel auto makers to redesign the models they sell in the state to achieve as much as a 30% reduction in their greenhouse-gas emissions by 2014. Greenhouse gases means principally carbon dioxide – a by product of burning petroleum products in an internal combustion engine.

The agency, which has a long history of pushing reluctant automakers to invent technology to make vehicles cleaner, isn't initiating these tougher rules just to be ornery. It is complying with a law that passed the California legislature in 2002, and has since won support from Gov. Arnold Schwarzenegger. By law, the agency is supposed to have regulations for putting the legislature's greenhouse-gas reduction goals in place by the end of this year.

The CARB draft proposals, which can be found at the [agency's Web site](#), are complex, and built on detailed assumptions about how soon various fuel-saving technologies could be pushed into mainstream vehicles. For the lay reader, the draft rules make great summertime reading -- if you are looking to take an afternoon nap. For the auto industry, however, the CARB proposals are alarming.

By the agency's estimates, the cost of technology that would be needed to meet the state's 2014 CO2 reduction goals could run to \$1,047 per vehicle for a passenger car or a smaller light truck to \$1,210 per vehicle for larger light trucks. Those figures could be lower or higher, depending on whether a given manufacturer is already making use of advanced fuel-saving technology. But at the high end, these per-vehicle cost estimates exceed the current average profit per vehicle for GM and Ford in North America.

The CARB draft makes a case that technologies that could help carmakers achieve California's CO2 reduction goals without drastic changes to the kinds of vehicles offered either exist, or soon will exist. Selling more hybrid gas-electric vehicles, for example, could help a carmaker meet the California carbon constraints. Hybrid SUVs like the Ford Escape Hybrid and the Lexus RX400h hybrid – both of which are supposed to hit the market in the next few months – represent the kind of vehicle the California regulators want the industry to sell. But from the carmakers' point of view, the fact that they can build hybrid SUVs doesn't mean they want to immediately convert their SUV fleets to hybrid technology. Some carmakers haven't invested as much in hybrid technology as Toyota, Honda and Ford but don't want to suffer in the market as a result. Gas-

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electric powertrains also are more expensive – by \$2,000 to \$3,000 or more – than conventional engine systems. That's one reason hybrids are a tiny sliver of the market, the hype over the technology notwithstanding.

The industry's broader criticisms of the CARB proposals, aired at last week's meeting, are that the agency is overestimating how much fuel can be saved by applying new technology, underestimating the costs of that technology, and stepping over the limits of its authority to regulate the fuel efficiency of cars and trucks. That last issue could well lead to a legal challenge by the industry, which contends that California's greenhouse gas initiative is fuel economy regulation by another name, and only the federal government can control fuel economy.

Peter Welch, president of the California Motor Car Dealers Association, summed up the industry's concerns this way. Historically, California clean air regulators have almost always stuck to three basic principles: When they have mandated new technology, it has been done so that the added costs to consumers are relatively slight. They have worked with automakers to assure that the new technology is virtually transparent to the consumer in daily use. And they have linked their mandates to easily understood goals so that car dealers and manufacturers could effectively sell consumers on the need for the new hardware and its added cost.

"In LA, you can see the mountains that you couldn't see 20 years ago," Mr. Welch says. That's a benefit that's easy to explain to consumers who might otherwise gripe about catalytic converters or other pollution-control systems.

Electric vehicles failed in California because they violated these three conditions, Mr. Welch says. "We are concerned they are violating the three [standards] with this package. The prices depending on the model can be huge."

The justification for the legislation that would require carmakers to reduce CO2 emissions is that global warming could "impose compelling and extraordinary impacts on California," the CARB draft says. The CARB staff draft also argues that the costs of CO2 constraints would be more than offset by savings from reduced fuel consumption. But consumers are getting mixed signals: Even now, gasoline still is relatively inexpensive compared to the early 1980s in inflation-adjusted terms. And SUVs remain high-volume sellers. That might change if prices for SUVs rose sharply due to environmental regulations, but so far it appears that a lot of consumers want SUVs even with higher gas prices and warnings about global warming.

The question is, will automakers put more than \$1,000 per car at risk if they don't do what California and the rest of the world wants?

That's where Wall Street comes in. Last week, Merrill Lynch's auto industry analyst, John Casesa, sponsored a conference call for clients and media that offered a podium for Duncan Austin, senior economist of the World Resources Institute, to present a case that auto makers risk significant damage to their earnings power and share values if they don't invest now in the technologies required to cut fuel consumption and emissions of greenhouse gases.

Mr. Austin's message was that whether or not you believe that global warming is real and that cars make it worse, most of the world's major car markets, including Europe, Japan, Australia, Canada, China and California, are taking steps to demand that vehicles burn less petroleum and chug out less carbon dioxide.

"We think the climate change issue is going to be a key driver for the industry over the next decade," Mr. Austin said, "and it will probably change competitive position of different manufacturers."

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Mr. Austin presented an analysis developed by researchers at a Swiss organization called Sustainable Asset Management that projected the costs per vehicle that 10 major global car makers would face to meet the most likely "carbon constraint" regimes in the major developed markets. The range ran from more than \$600 per vehicle for BMW to about \$400 a vehicle for Ford, slightly less than \$400 a vehicle for GM, under \$200 a vehicle for Toyota and less than \$50 a vehicle for Honda.

The flip side of that analysis is that earnings at companies that are less competitive in fuel-saving technologies or more reliant on fuel-thirsty vehicles for profits could see earnings suffer as more countries tighten carbon caps. GM and Ford could suffer earnings declines of as much as 10% or more, depending on what governments around the world do.

Mr. Austin said in a conversation after his presentation that the threat posed to automakers' profits is a long-term issue. However, he says short-term events, such as a return to \$40 a barrel oil, could trigger faster action by government regulators.

Still, Mr. Austin says, the picture that's shaping up should be of concern to carmakers that aren't investing aggressively in fuel saving technology. Assuming that China carries through on its stated intentions to require significant improvements in vehicle fuel efficiency, and assuming that California, the Northeastern U.S. and Canada also move to restrict carbon dioxide emissions, "you could be in a situation where the remainder of the U.S. market looks increasingly different to the global market," Mr. Austin says.

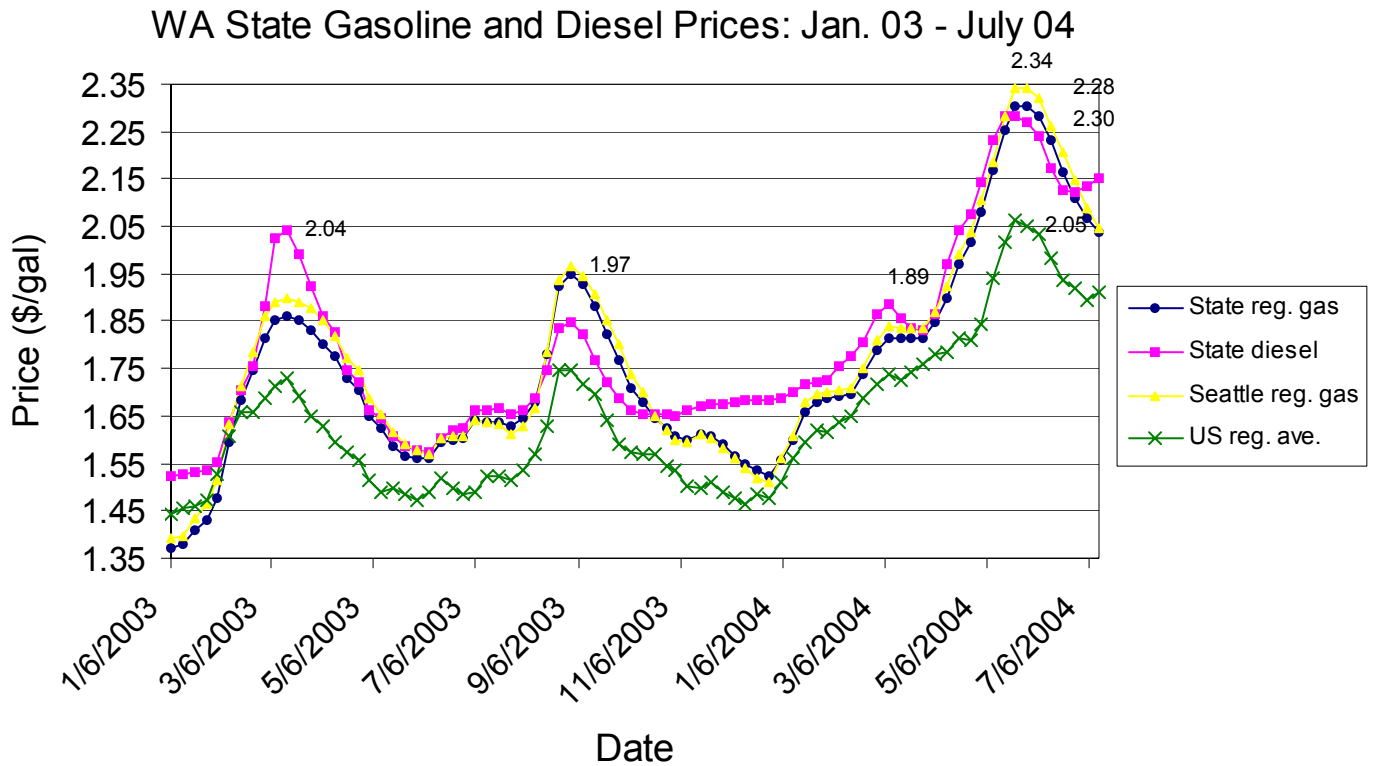
The central U.S. would be a place of high-income consumers driving relatively inefficient vehicles -- an island in a world where smaller, more efficient vehicles are the norm.

That sounds like the premise for a science fiction movie, a follow up to the Road Warrior series, perhaps. But it's not that far from the reality the industry faces today as Europe and Asia prepare to embrace the Kyoto climate change treaty, and the U.S. stands against it.

These long-term, what-if scenarios could give anyone a headache. It's a lot easier to mark down the SUVs, and rev up the publicity for the hot new 2005 models.

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State gasoline prices declined slightly over the last week, while diesel prices increased slightly. National gasoline and diesel prices increased slightly over the last week. Higher crude oil prices and increasing spot market prices for gasoline and diesel are the primary causes behind the recent increases.



Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 7/21): 47,608 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

- Weekly Range at Mid-C: \$38.3 – 56.3 per MWh, Ave. = \$47.5
- Approximate change from previous week \$+7 per MWh
- “Normal” price range, before 5/00 \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$40.83 per barrel (year ago: \$30.22)
- Seattle gasoline price (7/21) \$2.01 per gallon (year ago \$1.64),
- Natural gas, Sumas Hub: \$5.24 per million British Thermal Units (year ago \$4.46)
- Approximate change from last week. Oil: -0.13 \$ per barrel; Nat. gas: +0.24 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o July 22, 2004: Third consecutive day of record electricity use.
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o Our next shortage (Washington Post, July 17)
- o Oceans soaking up carbon dioxide (Seattle PI, July 20)
- o Eight States Sue Five Biggest Emitters of Carbon Dioxide (NYT, July 21)
- o Lawmakers Consider Ways to Improve Energy Reserve Statements (Environment & Energy Daily)

5. River and Snow Pack Information (Updated: July 14, 2004)

- Observed June stream flow at The Dalles: 70.5% of average,
- Observed June precipitation above The Dalles: 90% of average,
- Estimated Jan.-July runoff at The Dalles: 83.7 MAF, 78% of normal,
- Federal hydropower generation in June: 10,362 aMW, 1995-2002 average: 11,437 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: July 22, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 2,378 MW
 - o Canada (exported to) 625 MW
 - o Net power export: 3,003 MW

Our Next Shortage

By Robert J. Samuelson, Washington Post, June 17, 2004

American energy policy is nothing if not shortsighted and self-indulgent. By the early 1970s it was clear that we faced a long-term oil problem because (a) the country inevitably depended on imports and (b) two-thirds of global oil reserves lay in the Middle East -- where politics and instability made a catastrophic loss of supplies a permanent danger. What did we do? Well, Congress took some sensible steps in the 1970s. It created gasoline efficiency standards for vehicles and a Strategic Petroleum Reserve (SPR). But low oil prices in the 1980s and 1990s led to backsliding. The SPR wasn't adequately expanded, and drivers flocked to SUVs, which are governed by less stringent fuel mileage standards. Americans preferred cheap gasoline to long-term prudence.

When oil prices hovered around \$40 a barrel, pundits screamed for an energy tax (a policy I've long advocated). Although that's desirable, it won't bring much immediate benefit, because there are more than 230 million vehicles on the road. Any shift toward fuel efficiency will take time. A smart energy policy operates over years and decades, not weeks and months. The question that we ought to be asking -- and aren't -- is whether we're similarly blundering with natural gas. Given our history, that seems a good bet.

Natural gas is the heating fuel of about half of U.S. homes (51 percent in 2001). Since 1993 it has been the fuel used for almost 90 percent of new electricity generation; in effect, natural gas powers the Internet and most PCs. It is also a major fuel for manufacturers and for heating office buildings. In 2002 about half of gas sales went to industrial and commercial users. The trouble is that we're no longer self-sufficient in natural gas -- and our import dependence will grow.

In 2003 Americans used about 22 trillion cubic feet (tcf) of natural gas, up from 19 tcf in 1990. By 2025 consumption will be 29 tcf to 34 tcf, projects the Energy Information Administration. If we don't import more or expand domestic production -- or both -- those projections won't come true. Prices will rise, choking demand; or, shortages will occur. Some factories that need gas will move to countries with cheaper and more reliable supplies. Already, prices have risen. In the 1990s wellhead prices (the price where the gas leaves the ground) averaged about \$2 per thousand cubic feet. In 2003 they averaged almost \$5; now they exceed \$6.

Until now Canada has supplied most of America's needed imports (a sixth of consumption in 2003) via pipelines. But Canada may not have enough gas to sell increasing amounts to the United States. On paper, the solution is to import liquefied natural gas (LNG). Plenty of gas exists worldwide, much of it outside the Persian Gulf, for conversion into LNG. Moreover, the costs of building liquefaction plants have dropped 60 percent since 1990, says David Victor of Stanford University. Four U.S. terminals already exist to import LNG. At least 35 others have been proposed, says Chris McGill of the American Gas Association. The question is whether enough will ever be built.

The hallmark of U.S. energy policy is a steadfast refusal to confront choices. On oil, Americans want low prices and secure supplies, which are inconsistent. The lower the price, the less reason to buy fuel-efficient vehicles. The more oil we use, the more we import -- and the greater our vulnerability to a catastrophic loss. Fortunately, that hasn't happened yet. Although today's high oil prices may slightly hurt the economy, they're more of an inconvenience than a tragedy. Still, people must now realize that many dangers (terrorism, war, revolution, political extortion) could trigger a huge -- and tragic -- loss of Middle East oil for which we are utterly unprepared.

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A similar unreality afflicts natural gas policy. It's a favored fuel. For electricity generation, it's cleaner than coal and less fearsome than nuclear power. But we also restrict drilling: Waters off the East and West coasts are prohibited, as are parts of the Gulf of Mexico; producers complain about approval delays in Rocky Mountain states. New drilling remains essential because production from existing wells drops more than 25 percent annually.

There's also intense local opposition to some proposed LNG terminals. It's based heavily on exaggerated safety fears. The LNG will not explode, and vaporizing gas will burn only under limited conditions. The Federal Energy Regulatory Commission (FERC) says that over the past 40 years there have been 33,000 LNG tanker trips without a serious accident. Can proposed LNG terminals overcome local resistance? FERC contends that it -- and not state and local agencies -- has exclusive authority to approve onshore LNG terminals. But that's unclear. The courts or Congress will have to settle the issue. The more agencies involved, the harder approvals will be.

A country that stimulates demand and restricts supply courts trouble. Congress could resolve the contradiction. It could relax drilling restrictions and encourage imports. It could subsidize Alaskan natural gas. It could promote coal and nuclear power. Or it could suppress energy use through tax policies that raise fuel prices and discourage large homes. But Americans like none of these choices. So Congress waffles. If natural gas scarcities someday emerge, people will ask, who did this to us? And the answer will be: We did.

Oceans soaking up carbon dioxide

Scientists say water becoming acidic, endangering sea life

By TOM PAULSON, Seattle PI

After absorbing nearly half of humankind's industrial emissions of carbon dioxide for the past 200 years or so, the Earth's oceans are becoming more acidic -- a chemical change that could significantly harm sea life and speed up global warming.

That's the gist of several reports in today's Science magazine from an international team led by researchers at Seattle's Pacific Marine Environmental Laboratory, operated by the National Oceanic and Atmospheric Administration.

Carbon dioxide is a so-called "greenhouse gas," and its atmospheric increase, largely because of fossil fuel use, is one of the main drivers of global warming. But only half of the total carbon dioxide produced by human activity has remained in the atmosphere. The rest has disappeared, and scientists, until now, have debated where it went.

It turns out "the oceans have done us a great service" by absorbing much of this carbon dioxide, said Christopher Sabine, an oceanographer at the Seattle NOAA station -- but at a price, other researchers say.

Sabine was principal investigator for the international research project that, for the first time, quantified just how much of the atmospheric carbon dioxide is being absorbed and recycled by the oceans.

Working with teams from elsewhere in the United States, Australia, Canada, Spain, Japan, South Korea and Germany, Sabine and others reviewed nearly 10,000 measurements of oceanic carbon concentrations worldwide taken on some 95 research cruises.

Using sophisticated methods to track how the atmospheric carbon is slowly absorbed and "processed" in the surface waters of the oceans, the scientists estimated that the oceans had taken

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up some 118 million metric tons of atmospheric carbon dioxide during the past two centuries -- about 48 percent of all fossil fuel emissions during the same time period.

"Their results show that the oceans store a major proportion" of the carbon dioxide produced by human activity, and provide a better understanding of the carbon cycle, said Columbia University's Taro Takahashi, who wrote a commentary on the findings in the journal.

Richard Feely, Sabine's colleague at the Seattle lab, was principal author of another report in today's Science that examined some of the chemical and biological impacts on the oceans acting as one of the primary carbon sinks for our industrial effluent.

"We are changing the chemistry of the oceans," said Feely. Carbon dioxide is an acid, he noted, and the oceans are becoming more acidic -- a chemical change that could potentially upset the entire marine ecosystem.

To test the long-term impact of this change, Feely and colleagues studied marine creatures -- such as plankton, coral or snails -- that take in carbon as calcium carbonate to form their shells. In the lab, they exposed these creatures to higher levels of carbon dioxide to simulate the atmospheric levels of this gas by the end of this century if current trends continue.

"The shells appeared to be malformed," Feely said. But more importantly, he noted, the creatures' ability to absorb carbon was diminished as carbon dioxide levels and seawater acidity increased.

The changes under way in the oceans' chemistry, Feely said, could trigger significant adverse effects on the entire marine food chain. It's too soon to say if this is happening now, he noted, but the studies indicate such negative effects could occur if current trends continue.

All of life on Earth, most of the molecules in our bodies and much of what we consider "natural" on this planet depend upon carbon and a process called the carbon cycle -- the planetary production, absorption and reconstitution of carbon in its many chemical forms.

Fossil fuels are also mostly carbon and our tendency to burn lots of them has produced today's unprecedented amount of carbon dioxide gas, among other things, which has to go somewhere.

Sabine said his research indicates the oceans are now at about one-third of their total capacity to absorb carbon dioxide.

But as Feely's findings show, he added, there are other consequences to consider if we continue to expect the oceans to sop up our excess carbon.

Eight States Sue 5 Biggest Emitters of Carbon Dioxide

By ANDREW C. REVKIN, NYT July 21, 2004

Eight states and New York City sued five large utilities today that are the country's biggest emitters of carbon dioxide, the heat-trapping gas that scientists have linked to global warming.

The effort is the first by local governments to try to force companies outside their jurisdictions to curb gas discharges blamed for rising global temperatures and sea levels. Officials involved in the suit said they had acted to force cuts in the gases because the federal government has not.

In the suit filed today in Federal District Court in Manhattan, the states and the city said they were not seeking financial penalties but instead demanding significant cuts in the emissions, which they said posed serious threats to health, the economy and environment.

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The states are California, Connecticut, Iowa, New Jersey, New York, Rhode Island, Vermont and Wisconsin.

The companies named in the suit were American Electric Power, Cinergy, the Southern Company, the Tennessee Valley Authority and Xcel Energy. They operate more than 170 power plants that burn fossil fuels and that the states and city say emit 646 million tons of carbon dioxide a year, or 10 percent of the national total.

At a Manhattan news conference, Attorney General Eliot Spitzer of New York said that science pointing to risks from warming was "overwhelming."

He added that cuts of 3 percent a year in carbon dioxide emissions from utilities were "technically and economically feasible" and could be achieved without a noticeable impact on electricity costs.

Representatives of some of the companies named in the suit said they were already acting to curb emissions of carbon dioxide and that the courts were not the right place to deal with the problem.

"Climate change is a global issue that can't be effectively addressed by any individual company or small group of companies," said Melissa McHenry, a spokeswoman for American Electric Power.

Many states, including many of those involved in the new lawsuit, have already been using litigation to pressure out-of-state power plants to curtail nitrogen and sulfur emissions that travel long distances.

Other suits have been filed by states and private organizations against the Environmental Protection Agency over carbon dioxide, contending that the agency had failed to restrict the gas as a pollutant under the Clean Air Act despite growing evidence that it posed risks.

But the new suit was the first state legal action taken directly against companies that discharge carbon dioxide, an unavoidable byproduct of burning coal, oil and other fossil fuels.

New York City joined the suit, said Michael A. Cardozo, the city's corporation counsel, "out of concern for the impacts that global warming will have on the city and its residents and as part of the Bloomberg administration's commitment to maintaining a clean and sustainable New York."

The plaintiffs plan to base the suit on federal common law of public nuisance. The common law, they said in a news release, "provides a right of action to curb air and water pollution emanating from sources in other states."

Lawyers and lobbyists for energy companies said the plaintiffs would have a hard time making a case that carbon dioxide was a pollutant, and they noted that the gas flowed not only from power plants, but was also in exhaled breaths and the bubbles rising from open beer containers.

But Richard Blumenthal, the Connecticut attorney general, cited the states' successful suits against tobacco companies as evidence that such efforts can succeed. "The basic principal we're enforcing today is that when companies do harm to their neighbors and citizens they should be held accountable and they should be stopped," he said.

Lawmakers Consider Ways to Improve Energy Reserve Statements

By Mary O'Driscoll, Environment and Energy Daily

The oil and natural gas resource reserve overstatements at Royal Dutch/Shell and El Paso Corp. have exposed a credibility gap that requires either new regulation or new industry action, accounting and financial experts told House lawmakers yesterday.

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"Our entire energy reporting system globally and in the United States is badly in need of reform," Matthew Simmons, president of the Simmons & Company International investment banking firm, told the House Financial Services Committee yesterday.

The system "lacks the reliability and transparency that should frankly be mandatory for something as important to our economy and way of life as energy," Simmons said.

Shell rocked the energy industry earlier this year when it announced that its oil and gas reserves actually were 20 percent lower than originally stated. The company further prompted public and investor scorn when internal documents disclosed that as early as 2002, Shell not only knew its proven reserves were far below published figures, but that officials had an "external storyline" and "investor relations script" to assuage shareholders and analysts. Top Shell executives have since resigned.

Since then, the Securities and Exchange Commission has launched a formal investigation into the matter, and the Justice Department has begun a criminal probe. European regulators also are looking at the matter.

Earlier this month, Shell announced that the overstated reserves had exaggerated its profit by \$276 million, and that inappropriate accounting in other areas exaggerated profits by an additional \$156 million.

Other companies have had to restate their own reserve levels. Among them was El Paso, which slashed its proven reserves by 41 percent and took a \$1 billion charge for the fourth quarter of 2003.

Financial Services Committee Chairman Michael Oxley (R-Ohio), co-author of the 2002 financial service law known as the Sarbanes-Oxley Act that instituted internal corporate controls to combat corporate and accounting fraud, called yesterday's hearing to determine what can be done to strengthen regulations and avoid further problems.

The Shell and El Paso situations, Oxley said, show that corporate governance failures even in the wake of the new law "have not completely disappeared."

But Simmons said the energy industry's reserve statements have always had flaws. These flaws only grew in magnitude as fewer appraisal wells were drilled, as new oil and gas exploration and exploitation projects became increasingly complex, as decline rates in existing oil and gas fields accelerated, and as new projects shrank in terms of potential reserves.

And increasing reliance on computer simulation models produced estimates of the amount of hydrocarbon that various geologic structures might contain, leading to an increased reliance on high technology that did not use the old system of actual testing to "prove up" what the reservoir rocks contained, he said.

That, Simmons said, led to a widespread industry bias of booking higher levels of proven reserves while spending far less money to create the reserves than would have been spent 20 years ago. In turn, this created a cushion of proved reserves that might not get produced, and the possible illusion that finding and development costs per barrel were far less than the amount of money needed to accurately assess a new reservoir's real reserve potential.

He further noted that the biggest single factor to begin estimating a company's future oil and gas production is to properly assess the rate of decline occurring in its existing oil and gas production. "Yet there are no reports issued by any of the public, private or national oil companies that even

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hint at the annual decline rates by each production region, let alone any field-by-field data," Simmons said.

"We have now evolved into a systemic 'Trust Me' era for all energy providers," he said.

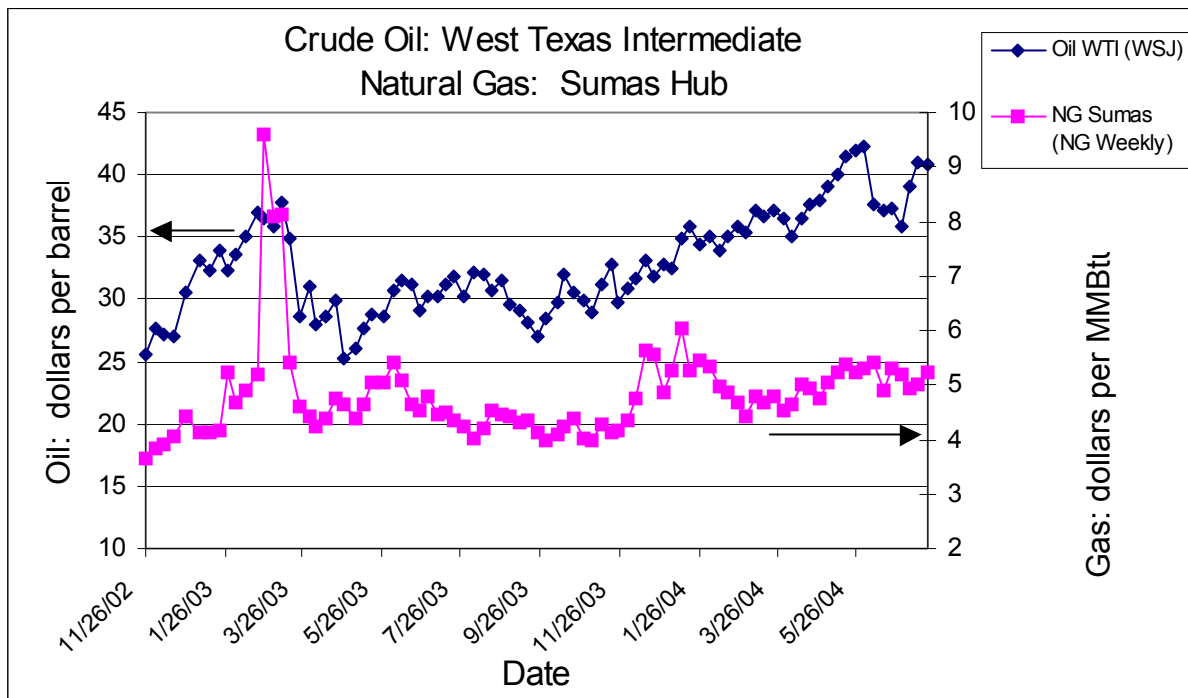
Bala Dharan of Rice University in Houston called for a new reserves certification program through the SEC in which data are evaluated by independent auditors as a way to get at "a larger credibility gap that affects the disclosures of reserves data."

Dharan added that as with other facets of corporate governance, reserves auditing should be separated from reserves consulting. And he called for a "principles-based" approach to classify reserves as proved that would help reduce the number of corporate disclaimers that "end up mostly scaring off investors who want to rely on the disclosures, and thus reduce the usefulness of reserves disclosures."

Simmons noted that the U.S. Energy Information Agency recently asked all natural gas producers to begin supplying it with current production data, and the International Energy Agency is calling for a new set of mandatory reserve reporting and detailed field-by-field production reports by all key global oil producers.

On the proven reserve side, an important change would be to report, by key production unit, three key reserve estimates: the current estimate of the original hydrocarbons, the current estimate of ultimate recoverable reserves and the cumulative production already produced. The remaining "recoverable reserves" then can be broken into proven, probable and possible reserve categories, he said.

Concerns about terrorism and supply limitations keep oil prices high, which in turn help keep natural gas prices high.



Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 8/3): 45,547 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

- Weekly Range at Mid-C: \$51.7 – 59.7 per MWh, Ave. = \$55.3
- Approximate change from previous week \$+7.8 per MWh
- “Normal” price range, before 5/00 \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$43.85 per barrel (year ago: \$32.23)
- Seattle gasoline price (7/21) \$1.98 per gallon (year ago \$1.64),
- Natural gas, Sumas Hub: \$5.36 per million British Thermal Units (year ago \$4.02)
- Approximate change from last week. Oil: 2.41 \$ per barrel; Nat. gas: -.07 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o July 22, 2004: Third consecutive day of record electricity use.
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o Device failure contributed to Hanford reactor shutdown (Seattle PI, Aug 3)
- o Fewer oil firms, higher profits (Boston Globe, July 31)
- o Companies avoid building refineries in US (Seattle PI, July 27)
- o

5. River and Snow Pack Information (Updated: July 14, 2004)

- Observed June stream flow at The Dalles: 70.5% of average,
- Observed June precipitation above The Dalles: 90% of average,
- Estimated Jan.-July runoff at The Dalles: 83.7 MAF, 78% of normal,
- Federal hydropower generation in June: 10,362 aMW, 1995-2002 average: 11,437 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: August 3, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 1,947 MW
 - o Canada (import from) 87 MW
 - o Net power export: 1,860 MW

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Device failure contributed to Hanford reactor shutdown

Seattle PI, August 3, 2004

The state's only commercial nuclear reactor remained out of service yesterday after a glitch during an automatic shutdown last week.

The Columbia Generating Station began to shut itself down Friday after an electronic device failed and closed one of the reactor's four steam flow valves, said spokesman Brad Peck of Energy Northwest, which operates the reactor.

The valves channel nuclear-heated steam to the turbines driving the generator, Peck said. Normally, three valves are kept wide open and a fourth is restricted to regulate the steam and maintain constant pressure in the reactor, he said.

When the device running one of the valves failed, that valve closed completely, he said. That caused an increase in pressure in the reactor vessel, which triggered an automatic shutdown.

Then there was another problem.

During a shutdown, all 185 control rods are inserted into the reactor core to shut down the reactor, Peck said. Friday, either two of the rods did not fully insert or there was a false indication they had not, he said.

So the control-room crew executed a manual shutdown to ensure all rods were fully inserted.

"It's conceivable they were already in ... but whether they were in or not is something we may not be able to decipher," Peck said. "Obviously, we'll make sure everything is functioning 100 percent" before the reactor is started up again.

The problems triggered an alert in which state agencies prepared to respond if needed to help Benton and Franklin counties.

State emergency authorities said there was no release of radiation and no danger to the public.

Technicians yesterday performed maintenance work that can only be done when the reactor is not operating, said Gary Miller, another Energy Northwest spokesman.

The reactor could be running again in a day or two, Miller said.

Columbia Generating Station is a boiling-water reactor that produces 1,150 megawatts of electricity, which is sold to the Bonneville Power Administration for the Northwest electrical grid.

Ed Mosey, a spokesman for Bonneville Power, said Columbia Generating Station has had a good operating record.

The shutdown will not cause a shortage of power, he said, but means there will be less electricity to sell on the open market.

Formerly known as the Washington Public Power Supply System No. 2 reactor, Columbia Generating Station is the only one of five reactors begun in the late 1970s to be completed before construction was halted in 1982-83.

The reactor is located on land leased from the U.S. Department of Energy within the boundaries of the Hanford Nuclear Reservation, but is a separate entity.

Fewer oil firms, higher profits

One of the merger survivors, Exxon Mobil, reports record earnings for 2nd quarter of \$5.8 billion

Seattle PI July 30 2004, By PETER J. HOWE, THE BOSTON GLOBE

The number of big U.S. oil companies has shrunk in the past five years. But for the survivors, life is terrific.

As crude oil traded at more than \$42 a barrel yesterday, near a 21-year high, Exxon Mobil Corp., the world's biggest publicly traded company, reported record profits. Its second-quarter earnings of nearly \$5.8 billion were up 39 percent from a year earlier.

Royal Dutch Shell Group, the world's No. 3 oil company, reported a 54 percent increase in second-quarter net income yesterday.

In a break with most historical precedents, Exxon also managed to not only reap booming profits from producing oil but also from refining and selling gasoline at service stations.

Despite pump prices above \$1.90 a gallon in most of the United States, consumer demand for gasoline continues to rise, keeping industry profit margins high.

Another reason, critics say, is that industry consolidation over the past five years has enabled the now larger companies to exert more oligopoly like pricing control in the market.

"These guys are getting too big for their own good," said Tyson Slocum, research director for energy programs at Public Citizen in Washington, D.C., the Ralph Nader-founded consumer advocacy group.

"Energy prices are far higher than they would be if we had adequately regulated and adequately competitive energy markets."

For instance, Exxon Mobil was formed by the \$87 billion merger of the country's No. 1 and No. 2 oil companies in 1999.

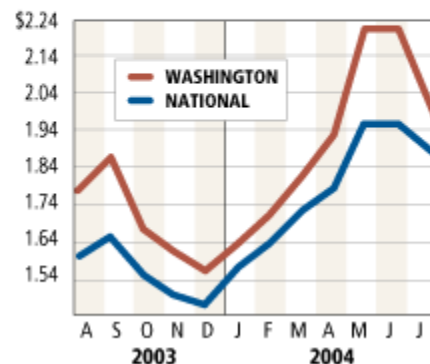
Likewise, the predecessors of ChevronTexaco Corp. joined in October 2001, 10 months before two other rivals merged as ConocoPhillips Inc.

PROFITS SOAR WITH GAS PRICES

The world's three largest publicly traded oil companies reported significant quarterly increases in profit over the same period last year. The success is attributed to rising crude oil demand and record high gas prices.

WASHINGTON AND U.S. AVERAGES

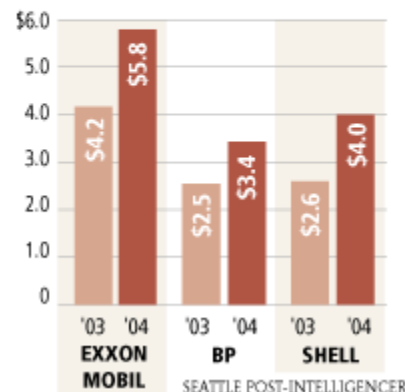
Per gallon of regular unleaded gas



Source: AAA; Company Web sites

OIL COMPANIES' NET INCOME

Second quarter, in billions



SEATTLE POST-INTELLIGENCER

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The result is big players control far greater market share.

During the past 10 years, the percentage of U.S. gasoline refining capacity controlled by the top five companies has grown to 52.2 percent from 34.4 percent, helping refinery owners that hold back supply to crank up prices, Slocum said.

Last year, the five biggest U.S. oil companies controlled 63.4 percent of the country's retail gasoline market, up from 46.2 percent in 1997, according to an industry trade publication, National Petroleum News.

ConocoPhillips, which this week reported a 75 percent increase in second-quarter earnings, acknowledged that it could have made considerably higher profits had it avoided unplanned shutdowns of refineries in Louisiana and Pennsylvania.

"We did not realize the full potential of our assets in a high-price and high-margin environment," said James Mulva, president and chief executive.

Historically, high oil prices have often led to bigger profits for the part of companies that produce and sell oil.

But the refining and marketing parts of the business usually suffer, because refineries have to buy high-priced oil and can't always pass those added costs on to consumers.

It's unusual for companies to reap sharply higher profits for both parts at the same time.

Exxon Mobil spokeswoman Prem Nair declined to comment on whether the company has greater pricing power because of industry consolidation. But she noted that Exxon Mobil operates just seven refineries in the United States and 35 abroad.

She cited Capitol Hill testimony this month by Red Cavaney, president of the American Petroleum Institute, an industry trade group, who said "refiners have dramatically increased the efficiency and utilization of existing refineries" but have been hamstrung in expanding refineries or building new ones because of low returns on investment and "massive expenditures to comply with environmental requirements."

Edward Galante, senior vice president overseeing Exxon Mobil's refining and marketing business, said in a Bloomberg News interview that the company is not counting on refining margins remaining high. "Who knows what next quarter will bring?" Galante said.

But he said the company has been able to closely coordinate operations of former Exxon refineries in Louisiana and Texas with two former Mobil refineries nearby in both states, cutting overhead and improving efficiency. Exxon said it increased its refinery output in the first half of the year to 1.82 million barrels per day, up from 1.75 million in the 2003 first half.

Robert Goodof, a portfolio manager at Loomis Sayles & Co. in Boston who owns Exxon shares, said, "We may finally be in a cycle where refining can be a good business, and a lot of folks will think they earn excess profits, but they leave out a lot of years like 1999 when profits weren't so hot."

Jim Burkhard, director of oil market analysis with Cambridge Energy Research Associates, said, "When we see high gasoline prices, sometimes there are people who see conspiracy theories, but the most important reason why gas prices are high is demand.

"It's a very simple concept," Burkhard said. "There's no evidence that \$2 gas or high gas prices have affected driving habits in the U.S."

Companies avoid building refineries in U.S.

Seattle PI By H. JOSEF HEBERT, ASSOCIATED PRESS WRITER

It's a good time to be in the oil refinery business. Demand for gasoline is high and profits are pouring in at a record clip. With that combination, you'd think oil companies would be falling over each other to build new refineries. Not so. There hasn't been a new refinery built in the United States in 28 years and more than 200 smaller facilities have closed.

Refining never has been viewed as a cash cow by the petroleum industry, which complains about meager profit margins, hefty environmental costs and too much government regulation.

But with gasoline prices hovering at \$2 a gallon for much of this year, the country's largest oil companies and independent refiners are expected to report soaring profits from refinery operations in second quarter earnings this week.

An early hint of the industry's healthy bottom line came last week from Sunoco Inc., which reported a \$217 million profit from refining related business, quadruple the total from a year ago. It produced a record 43 million barrels of gasoline during the quarter.

The refineries set production records during the first half of the year, including 8.6 million barrels of gasoline a day, but still couldn't keep up with demand, the American Petroleum Institute reported Tuesday.

Still, no major oil or refining company appears eager to add a new refinery. Instead, more could close. A refinery in California is expected to shut its gates this fall. Two Texas refineries have been on the market for three years with no takers. And an offer by Saudi Arabia to help build several U.S. refineries brought not even a hint of interest on Wall Street. A new refinery project in Arizona has yet to break ground after five years of trying.

"Today investors are in no mood for refinery building even if funding were available," Arjun Murti, managing director of Goldman, Sachs Co., told a recent congressional hearing on the dearth of U.S. refining capacity. Any executive who might pursue a new \$3 billion refinery risks his company's stocks taking a hit, said Murti.

In 1981 the country had 324 operating refineries; today there are 149. They have been running at an average of 96 percent capacity but are unable to keep up with demand. Only gasoline imports have prevented shortages and gas lines.

But many of the closed refineries were, small, inefficient and "living on tax credits" when the country had too much refining capacity, says Guy Caruso, head of the Energy Information Administration.

In fact, the large, efficient refineries not only survived, but have become bigger. Over the last six years, refiners added 1.2 million barrels of production capacity, equivalent to building one additional medium-size refinery each year, according to the EIA, which keeps energy statistics for the government. At the same time, demand grew by 1.4 million barrels a day.

And efficiency improvements - called "de-bottlenecking" within the industry - can only go so far, industry experts said.

Demand for refined products, especially gasoline, is expected to grow at an annual rate of 1.6 percent for the rest of this decade, requiring an additional 260,000 barrels a day of gasoline and other fuels each year, according to Goldman Sachs.

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With those kinds of demand forecasts, why is there no interest in building more U.S. refineries?

There is the cost that is estimated at \$2 billion to \$3 billion in capital investment with no certainty that today's glowing profits will stay around, say economists. And, despite billions spent on pollution controls, refineries do not make pleasant neighbors.

"Nobody seems to want to build a refinery in their back yard," David O'Reilly, chairman of ChevronTexaco, told a U.S. Chamber of Commerce luncheon the other day, deploring what he said was a regulatory and permitting morass and almost certain citizen opposition to any new refinery project.

Given likely community opposition, an anticipation of a lengthy permitting fight and uneven expectations on a future investor's rate of return, "most companies are unlikely to undertake the significant investment needed to even begin the process" says Red Cavaney, president of the American Petroleum Institute. The organization represents the large oil companies in Washington.

A new refinery can't be sold to Wall Street as a very profitable investment, industry executives maintain.

"The 10-year average return on investment in the (refining) industry is about 5.5 percent, about what investors could receive by investing in government bonds with little or no risk," says Bob Slaughter president of the National Petrochemical and Refiners Association.

But some independent refiners, such as Valero Energy Corp., have been able to reap considerably higher rates of return - buying old refineries at bargain prices, as little as 20 cents on the dollar.

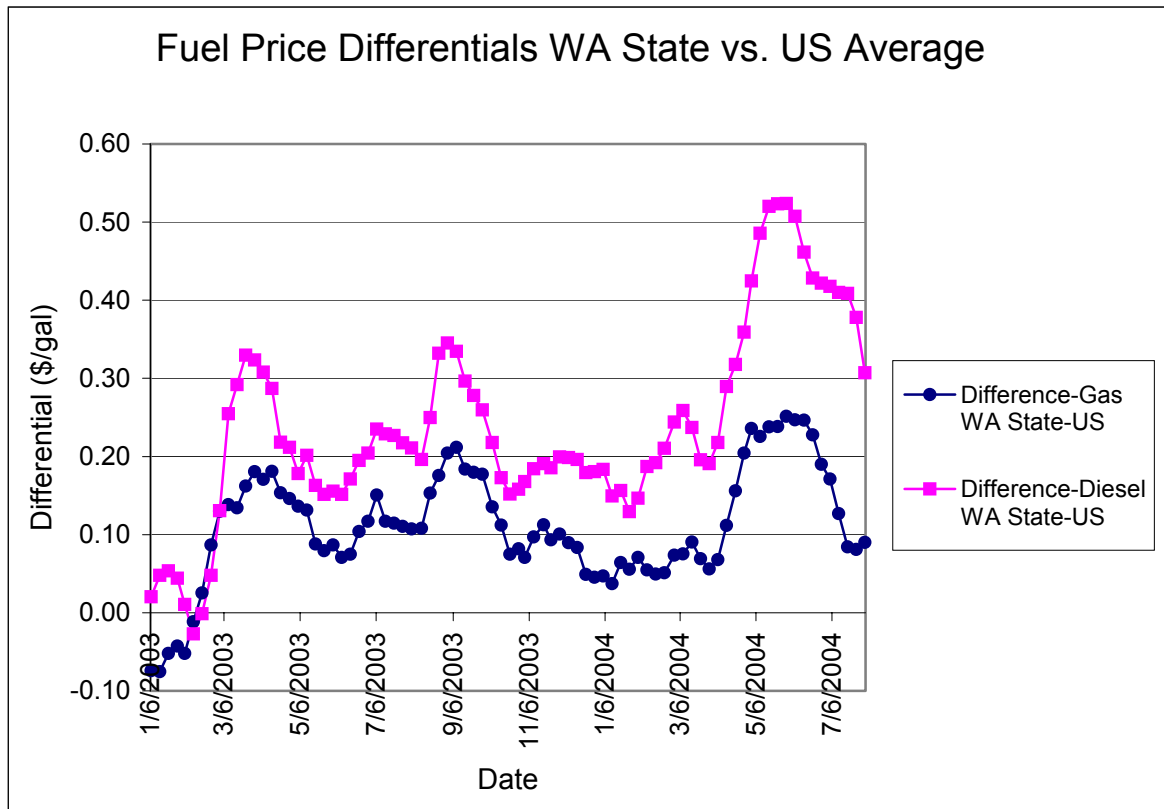
Valero, the country's largest independent refiner based in San Antonio, Texas, has grown rapidly since 1997 by acquiring undervalued refineries, making environmental improvements and expanding capacity.

Such was the case with its purchase of the Orion refinery in Louisiana. "We paid far less (for it) than the replacement cost. If we had paid full replacement cost for it, it would not be doing well at all," said Gene Edwards, a Valero senior vice president.

Would Valero ever build a new refinery?

"I don't see anyone building a refinery in the U.S. - maybe overseas," said Edwards in an interview.

Petroleum prices reached the \$44/barrel level this week as supply concerns continue to add a significant price premium. While the current price represents a record in nominal dollars, it is less than the inflation-adjusted price of \$57/barrel reached briefly in 1991 and the sustained \$80/barrel price in 1981 (expressed in 2004 dollars). Retail gasoline and diesel prices remain high, but continue to inch downward as regional fuel inventories remain sufficient and stable. The price differential between WA state (average) and national (average) gasoline and diesel prices continue to decline from the highs registered earlier this summer of 25 cents/gallon for gasoline and 52 cents/gallon for diesel.



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- Power Pool peak load (Tuesday, 8/10): 48,655 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

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4. Energy News Headlines from around the Nation

- o Border power pact proposed (Sac Bee, Aug 10)
- o Are power plants crying wolf over regulation (Sac Bee, Aug 2)
- o California Softens Plan to Limit Autos' Greenhouse-Gas Emissions (WSJ, Aug 9)
- o Next stop \$50 per barrel? (The Economist, Aug 5)

5. River and Snow Pack Information (Updated: Aug 10, 2004)

- Observed July stream flow at The Dalles: 70% of average,
- Observed July precipitation above The Dalles: 75% of average,
- Estimated Jan.-July runoff at The Dalles: 83 MAF, 77% of normal,
- Federal hydropower generation in July: 7,714 aMW, 1995-2002 average: 9,661 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: August 10, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 1,748 MW
 - o Canada (import from) 441 MW
 - o Net power export: 1,307 MW

Border power pact proposed

By Margaret Talev, SacBee August 10, 2004

Gov. Arnold Schwarzenegger called Monday on the governors of the six Mexican border states to team up with California and other Western states on power production and to commit to a greater reliance on renewable energy.

"All of our energy decisions make a difference, from a single light bulb in a child's room to the biggest power plant in our region," Schwarzenegger told Mexican leaders in his keynote address at opening ceremonies for the 22nd Border Governors Conference.

Schwarzenegger laid out a three-point plan in which California, Arizona, New Mexico and Texas would pool information with the Mexican states of Baja California, Sonora, Chihuahua, Nuevo Leon, Tamaulipas and Coahuila to estimate combined long-term energy needs.

He also called on the states to develop a unified plan for energy production, distribution and marketing, "which puts the most reliable and affordable sources of all types of energy within reach of every one of our citizens and businesses."

Finally, he called for a coordinated energy conservation campaign, asking Mexican leaders to embrace a bipartisan plan adopted earlier this year by the Western Governors Association.

That plan, promoted by Schwarzenegger, a Republican, and New Mexico Gov. Bill Richardson, a Democrat, commits to shifting away from oil and coal over the next two decades and greatly increasing Western states' reliance on renewable energy, using tax breaks and other incentives.

"We will end up with cleaner air, cleaner water, an improved economy and a more diversified and stable power supply," Schwarzenegger told Mexican leaders.

"And these benefits will not stop at the border. They cannot. Not when our regions and our people are so intertwined."

Administration officials said the Mexican government, not individual Mexican states, controls most energy policy, but Schwarzenegger indicated he wanted governors to collectively pressure national leaders to adopt conservation and renewable energy standards.

Environmental groups applauded Schwarzenegger's sentiments but said they want to see him doing more to try to change the current dynamic between Mexico and U.S. border states when it comes to power.

Already, two power plants that operate in Baja but provide power to Southern California have come under fire by conservationists who charge that the energy companies have built south of the border in order to skirt U.S. environmental laws.

Meanwhile, two companies are pursuing plans to build liquefied natural gas terminals in Mexico, which also would generate power for California. Top Schwarzenegger advisers recently toured overseas plants with energy executives on a trip paid for by the industry. Critics say the technology poses environmental and security risks.

"His statements set good groundwork on very important points - how do we work to protect the environment and the citizenry of the border?" said Aaron Quintanar of conservation group Wildcoast.

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"But he's got to follow through." Otherwise, Quintanar said, "There's a danger of Governor Schwarzenegger laying the political groundwork to set up the northern Mexican states as kind of resource centers for California and other border state markets."

Kristin Casper, an energy advocate with Greenpeace, said the Western Governors agreement Schwarzenegger and Richardson are touting is a start but falls short. And she urged Schwarzenegger to speak out against liquefied natural gas production in Mexico.

"I applaud the governor for moving forward on renewable energy, but right now U.S. corporations aren't moving forward with true renewable energy in Baja."

Governors are expected to adopt at least some of Schwarzenegger's recommendations before the conference ends today. They also are scheduled to discuss border issues dealing with water resources, border security, pollution and trade.

Are power plants crying wolf over lawsuit?

By Chris Bowman, SacBee, August 2, 2004

As if environmental threats on his own turf weren't enough, Attorney General Bill Lockyer has enlisted California to combat global warming gases from power plants as distant as Kentucky and Florida.

The court battle barely has begun and already power industry officials are saying a win would damage the economy by driving up energy costs for manufacturers and consumers.

At issue are emissions of carbon dioxide, the primary heat-trapping gas that alters the Earth's temperature, and the nation's highest emitters of the gas - the old coal-fired power plants mainly in the Midwest and the South. Owners of 170 of them are singled out in a June 21 lawsuit brought by California, seven other states and New York City, all seeking a federal court order to cap and cut the carbon dioxide emissions.

The electric power industry argues that the technology to capture these gases in the plant doesn't yet exist, at least not at affordable prices.

The history of mandated pollution controls, however, suggests that the supposedly prohibitive costs of cutting the climate-altering gases won't materialize.

Several documented cases in the power and automotive industries show that ingenuity and adaptation - fueled by government mandates - spur the development of new technologies that cut industry's cost of environmental protection. They also capture fuel savings.

"No matter how good a job modelers do in trying to predict outcomes, smart people running real companies generally find cheaper ways to meet a goal once they actually need to, especially those (rules) that allow companies maximum flexibility," said David Doniger, director of climate change policy at the environmentalist Natural Resources Defense Council.

Still, it's a quantum leap for California to go from adding laws that put new pollution controls on industries and new cars sold here to attempting to persuade courts to cap emissions on factories in other states.

"Climate policy should be fashioned by policy-makers ... not by lawyers in the courtroom," said Thomas Kuhn, president of the Edison Electric Institute, the utility industry's main lobbying group.

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The lawsuit seeks a court order requiring the nation's top five power producers to cut carbon dioxide emissions every year for at least a decade, by an amount to be determined later by the court.

The targets are far from California: American Electric Power Co. Inc. in Columbus, Ohio; Cinergy Corp. in Cincinnati; Xcel Energy Inc. of Minneapolis; the Tennessee Valley Authority; and the Southern Co. of Atlanta.

Though the targeted smokestacks are hundreds if not thousands of miles away, the lawsuit ties their emissions to the future economic, environmental and public well-being of California, Connecticut, Iowa, New Jersey, New York, Rhode Island, Vermont, Wisconsin and New York City.

The suit paints catastrophic scenarios from global warming, including increased flooding and water shortages brought on by a diminishing Sierra snowpack, and a doubling of heat-related deaths in the Los Angeles area.

Power industry officials also predict dire consequences if the lawsuit somehow succeeds.

"Forcing utilities to reduce greenhouse gases, including CO₂, would cause electricity prices to skyrocket for every business and homeowner in America," said Jeffrey Marks, spokesman for the National Association of Manufacturers, which represents American Electric Power, Southern and Cinergy.

Some economists said, however, that power companies, auto manufacturers and other regulated industries routinely exaggerate the costs of environmental restrictions.

Case studies show that the environmental technology industry readily produces more efficient pollution controls in response to new and anticipated government mandates, and that costs and efficiencies improve as more companies adapt to the new rules.

"Costs almost always decline substantially once regulatory mandates are introduced and control technologies are commercialized," says a September 2000 study commissioned by the Northeast States for Coordinated Air Use Management, a government air pollution research and policy center. The report writers reviewed case studies of pollution controls for power plants and automobiles.

In 1989, for example, the industry-funded Electric Power Research Institute said the power industry would be paying \$4.7 billion to \$6.6 billion a year to comply with new Clean Air Act amendments to reduce acid rain, by cutting sulfur dioxide emissions at coal-fired plants. By 1997, the electric institute's estimate had fallen to \$1.5 billion to \$2.1 billion a year - "three to four times lower than the figures widely cited in the congressional debates that shaped the 1990 amendments," the study states.

Industry officials said the only feasible way to meaningfully cut carbon dioxide emissions would be to switch from coal to more expensive natural gas, which burns more cleanly than coal.

"It would be ludicrous to even consider limiting the use of coal and other fossil fuels when next-generation energy technologies aren't ready to drive our \$12 trillion U.S. economy," Marks said.

Some environmental policy analysts, however, said this view ignores the technology-driving impact of government-mandated pollution reductions.

An examination of the past 30 years' experience in controlling other major power plant emissions in the United States, Japan and Western Europe consistently shows costs and performance

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improving greatly over time as the cleanup technology matures, according to studies published this year by public policy scholars at Carnegie Mellon University in Pittsburgh and the University of California, Berkeley.

Lead researchers Edward Rubin and Margaret Taylor said their findings portend similar success for a new class of environmental technology that is not currently cost-effective but promises to significantly cut global warming emissions without abandoning coal.

Called "carbon capture and sequestration," the technology involves capturing carbon dioxide from coal combustion before it goes up the smokestack and storing the gases deep in the Earth - for example, in depleted underground oil and gas reservoirs. The technology is one of the leading options now being examined in climate policy studies.

Other, more readily available ways to reduce the climate-altering gases include industry investments in commercial and residential energy conservation, use of wind and solar power, using cleaner power plants more and dirtier plants less, and replacing the least-efficient plants.

Officials of companies named in the multistate lawsuit said they are achieving impressive emission reductions without government mandates.

States participating in the lawsuit, however, have said that voluntary actions and government financial incentives are inadequate.

Carbon dioxide emissions from U.S. electricity suppliers increased by more than 24 percent from 1990 to 2001, compared with a 16 percent increase in like emissions for the economy as a whole, according to the suit.

"Clearly, voluntary actions aren't going to cut it," said Tom Dresslar, a spokesman for California Attorney General Lockyer.

While industry focuses the debate on the increased costs of greenhouse gas controls to consumers, the government attorneys argue passionately about the incalculable costs of doing too little, too late to combat global climate change.

In California, those costs include a predicted worsening of smog and increased wildfire due to hotter summers and the further spread of West Nile virus by mosquitoes.

Most worrisome is the shrinking of the mountain snowpack many scientists attribute to global warming.

It is California's single largest source of drinking water, which is captured in reservoirs during the spring runoff and distributed to California's 34 million residents so they can get by during the six-month dry season.

"This process of reduced mountain snowpack, earlier melting and associated flooding and reduced summer stream flows already has begun," the lawsuit states.

California Softens Plan to Limit Autos' Greenhouse-Gas Emissions

By JEFFREY BALL, WSJ Aug. 9

California environmental regulators eased a proposal to limit greenhouse-gas emissions from autos, acceding to auto-industry complaints, but industry officials indicated they are still likely to sue the state to block the rule.

In the latest twist in a battle being watched closely by the federal government and by other states, particularly those in the Northeast, California officials said Friday they had adjusted their first-in-

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the-nation plan to limit emissions of carbon dioxide and other suspected global-warming gases from automobiles to give the auto industry an extra two years, to 2016, to fully comply. State officials also tweaked the proposal so it requires slightly less-stringent emissions reductions from heavier sport-utility vehicles and pickup trucks than an earlier version of the rule did.

These vehicles tend to consume more fuel, and thus emit more global-warming gases, than cars do because they are heavier. But they are the main profit engines for Detroit's Big Three and, increasingly, for Japanese and European auto makers in the U.S.

In exchange, officials of the California Air Resources Board, the state's clean-air regulatory agency, said they were requiring slightly more-stringent emissions reductions from passenger cars and lighter trucks than they had proposed. The officials said they expected the changes to result in a slightly greater emissions reduction than an earlier version of the rule would have produced.

It is unclear whether the controversial rule, passed by California's legislature two years ago and set to phase in the beginning of 2009, ever will be implemented. Auto-industry officials said on Friday that they hadn't had time to review the changes fully. But they indicated that the changes probably wouldn't mollify the industry, which has threatened to sue to block the rule if it formally takes effect following a vote by the full California air board and a review by the California legislature in the coming months. The industry's argument is that the California law is really a state effort to force higher fuel economy -- a power reserved for Washington under federal law.

Environmental activists said they still support the California regulation.

The California air board estimates that the rule would reduce global-warming emissions by as much as 34% for cars and small trucks and 25% for larger trucks and SUVs after 2016, when it would take full effect. The board estimated the changes ultimately would add an average of \$626 to the cost of a car and a small truck and \$955 to the cost of a large truck. It is unclear whether automakers would pass those costs on to consumers.

NEXT STOP, \$50?

The Economist, Aug 5th 2004

"THE oil price is very high, it's crazy." The sentiment seems reasonable enough. After all, the price of a barrel of oil shot above \$44, a record in nominal terms, on the New York Mercantile Exchange this week (see chart).

Oddly enough, the mere observation that the market was "crazy" has been one factor pushing prices higher. That is because those words were spoken on August 3rd by Purnomo Yusgiantoro, Indonesia's oil minister and the president of the Organisation of Petroleum Exporting Countries (OPEC). He stunned the markets by adding that "there is no additional supply" because the cartel lacks spare capacity. People might have already suspected that OPEC members were pumping pretty much all they could. But his words were a marked departure from the usual vague utterances of the cartel's ministers, and have had pundits thinking that supply might be even tighter than they had believed. Some worry that the price might reach \$50 soon; some are talking of an oil "shock".

Is this likely? Certainly, a further rise in oil prices is plausible. Demand for petrol remains strong, especially in America and China, despite high prices. Supply seems stretched. Usually, a few OPEC members--most notably, Saudi Arabia--keep spare capacity on hand, calling on it when prices overheat. However, in recent years their

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investment has not kept pace with roaring demand. So there is less spare capacity now than at almost any time for 30 years.

That points to higher prices, but not necessarily a shock. For a start, even \$50 a barrel would, in inflation-adjusted terms, still be below historic peaks. Also, the American market may be loosening a little. Official data released on August 4th showed a sharp rise in gasoline inventories last week, of 2.4m barrels to 210m barrels, the highest stock in a year and a half. Experts had expected inventories to fall by 500,000 barrels. Futures prices receded on the news.

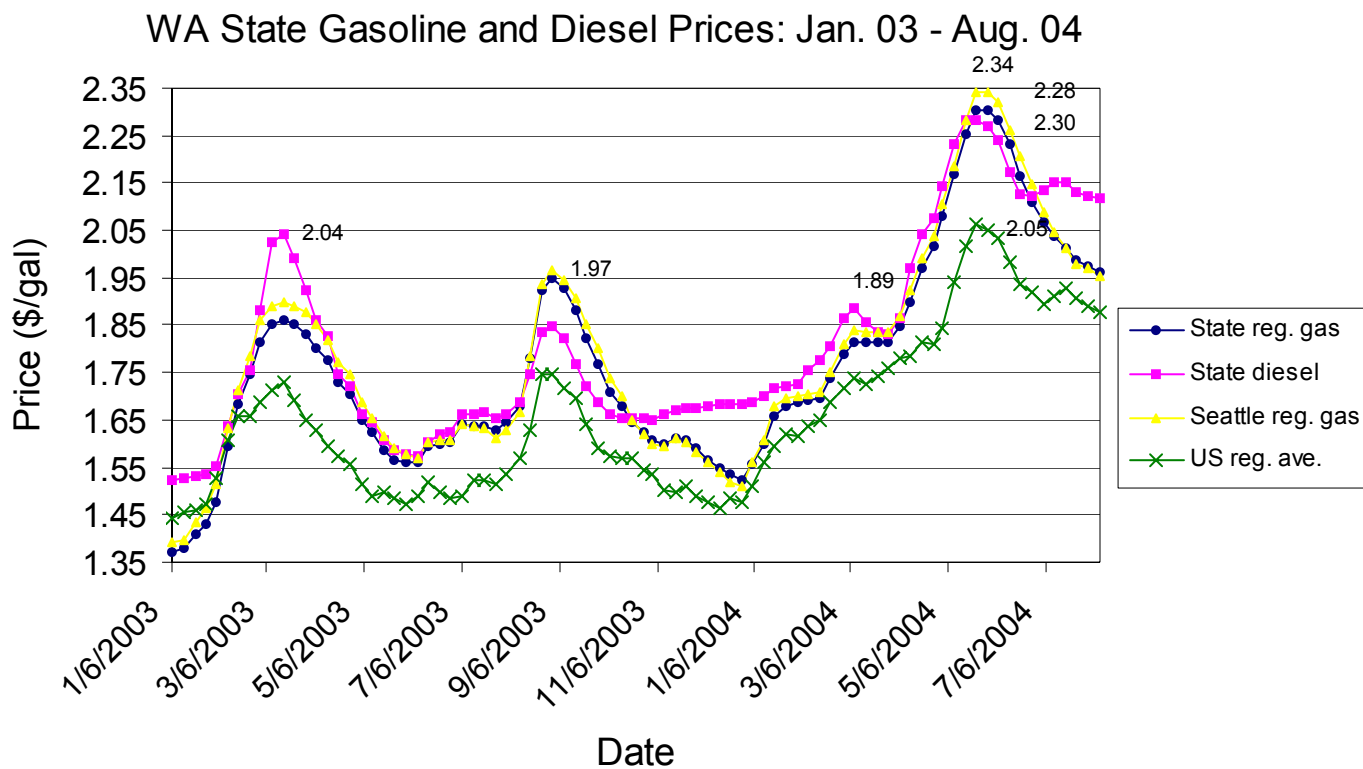
Another reason to think a shock is unlikely is the possibility that Saudi Arabia may yet have something up its sleeve. The Saudis rejected Mr Purnomo's suggestion that they had little capacity left. On August 4th, the OPEC president backtracked, saying there was some spare capacity after all, and prices eased.

The Saudis claimed that they have started pumping oil at two new fields that were not planned to come online for three months. Sceptics insist this is not ahead of schedule, but acknowledge that the new oil will more than offset declines elsewhere, especially if the Saudis manage to delay the retirement of old fields.

Therefore, the main cause for concern today lies with a force that even the Saudis may not be able to reckon with: terrorism. This week there were guerrilla attacks on Iraq's northern pipeline to Turkey. If terrorists somehow manage, as they have been trying to do in recent weeks, to strike at the heart of Saudi Arabia's oil infrastructure, the desert kingdom's output and spare capacity may be knocked out for a while. In that unlikely but frightening scenario, \$50 oil would be more than a possibility. In fact, it could be a mere staging post on the way to far higher prices--and perhaps to a true oil shock.

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Petroleum prices reached a record price of \$44.85/barrel this week as concerns about supply from the Middle East, Russia, and Venezuela continued to add a significant price premium. Gasoline prices were down about one cent per gallon from last week, while diesel remained about the same.



Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 8/17): 48,278 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

- Weekly Range at Mid-C: \$49.9 – 61.6 per MWh, Ave. = \$56.3
- Approximate change from previous week \$+1.5 per MWh
- “Normal” price range, before 5/00 \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$46.75 per barrel (year ago: \$30.71)
- Seattle gasoline price (8/17) \$1.94 per gallon (year ago \$1.78),
- Natural gas, Sumas Hub: \$5.11 per million British Thermal Units (year ago \$4.22)
- Approximate change from last week. Oil: +1.9 \$ per barrel; Nat. gas: -.11 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o July 22, 2004: Third consecutive day of record electricity use.
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o BPA talks shaping electricity in the state (Seattle PI, Aug 16)
- o Risks to Calif. dire in climate study? (LA Times, Aug 17)
- o Shell confirms refinery won't close (Sac Bee, Aug 14)
- o Drivers get a break at the pump (WSJ, Aug 18)

5. River and Snow Pack Information (Updated: Aug 10, 2004)

- Observed July stream flow at The Dalles: 70% of average,
- Observed July precipitation above The Dalles: 75% of average,
- Estimated Jan.-July runoff at The Dalles: 83 MAF, 77% of normal,
- Federal hydropower generation in July: 7,714 aMW, 1995-2002 average: 9,661 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: August 18, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 1,693 MW
 - o Canada (import from) 501 MW
 - o Net power export: 1,192 MW

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BPA talks shaping electricity in state

By BILL VIRGIN, SEATTLE POST-INTELLIGENCER COLUMNIST

The Bonneville Power Administration is going around the Northwest posing some important and complex questions to the consumers, businesses and utilities that depend on it as the region's leading distributor of electricity.

Should BPA be strictly an electricity wholesaler, or should it also take a leading role in conservation and salmon protection? Should it help customer utilities find additional sources of electricity in the Northwest or should it simply market what is available from the Columbia River hydropower system? Should it find room for investor-owned utilities and aluminum companies under its umbrella, or serve only the public and municipal-owned utilities and tell the rest "tough luck?"

You won't find much unanimity on any issue relating to the electricity scene in the Pacific Northwest, but on these questions the region is uniting as with one voice to answer: "Yes."

BPA will be hearing that answer again tonight as it holds the first in a series of public hearings on its future at 6 p.m. at the Mountaineers headquarters, 300 Third Ave. W.

The hearings are part of what it's calling the "regional dialogue" on its future, not only after 2006 when some contracts expire but after 2011 when the rest do.

Regional dialogue is one of those earnest but dull terms beloved in the region for any public policy question. While such phraseology ordinarily induces eye-glazing stupor, in this case people have a much more direct motivation for taking an interest in this issue: their electric bills.

Those electric bills, or more properly the people who pay them, took a pounding in 2000 and 2001 when the West Coast energy crunch sent power prices soaring. While Enron and other miscreants in the power trading business are getting the blame for sending electricity prices to the stratosphere, there were lots of other factors -- increasing demand in California, little additional generating capacity, drought in the Pacific Northwest -- that would have sent prices up even without the assistance of Enron's Ken Lay and his minions.

That wouldn't have mattered quite so much were it not for the fact that BPA was itself overextended in the market, having signed contracts to supply much more power than it wholesales directly from the Columbia hydro system and Energy Northwest's nuclear plant. That meant BPA was out there scrambling to buy power in the overheated market.

That searing experience is still fresh in the minds of all involved as BPA starts gearing up for another rate case. Rather than careening from crisis to crisis, however, BPA is trying something different -- clearly defining what it will be doing over the next few decades, so that its customers have time to plan accordingly.

BPA's plan for the future is this: In the future BPA, will sell the power it has at the cost it takes to produce it. Power needs beyond that would be provided at prices in a separate tier, calculated according to what it costs to line up that power. Customer utilities could opt for that, or they could see how they do on their own.

That policy, admittedly outlined in the broadest terms, is getting some support. The Northwest Power and Conservation Council gave its endorsement. So did the federal Government Accountability Office (the former General Accounting Office). Kevin Clark of Seattle City Light says the municipal utility is "pretty happy with what they've proposed," both for now until 2011 and the longer term.

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"As of now, everyone's swimming in the same direction," he says.

For now. But there's a lot of time and a wealth of details to be worked out, and plenty of lingering and fresh resentments that could dam the stream of cooperation.

Some publics, most notably Snohomish and Grays Harbor, have been sharply critical of Bonneville's spending, saying that if the agency had been more attentive to expenses, it could have given rate relief to its customers.

They're also on guard against any hint of what they see as an intrusion by investor-owned utilities onto the preferential position of public utilities.

Then there's the issue of what used to be called the direct service industries, the large industrial customers such as aluminum smelters who buy power straight from Bonneville. BPA's obligation to serve those customers runs out in a few years, and more than a few in the public-utility community are more than eager to wave them goodbye.

There aren't many of those aluminum operations left, but those in that area (such as Alcoa in Ferndale) will argue they need access to low-cost power to keep operating and save jobs.

Conservation, environmental and tribal groups, meanwhile, are already warning against cuts in salmon-run restoration and energy consumption-reduction programs. NW Energy Coalition says Bonneville should be the one to line up additional sources of electricity, arguing that leaving it to local utilities might reduce the commitment to conservation and renewable energy.

The regional dialogue and the drawn-out calendar over which it will occur seem like typically Northwest ways of dealing with any issue -- talking it to death. In this case, at least, the approach has considerable merit. So high are the stakes, so widespread the impacts of getting it wrong, so strong the sentiments and so numerous the opportunities for clashes, it makes sense to lay out the options now, let everyone understand well in advance what's going to happen and perhaps even reconcile some of the inevitable differences.

Otherwise, dialogue will become a fancy synonym for shouting match.

Risk to California Dire in Climate Study

■Unless checked, global warming could reduce the Sierra snowpack up to 89% by century's end.

By Miguel Bustillo, Times Staff Writer

Global warming could raise average temperatures as much as 10 degrees in California by the end of this century — sharply curtailing water supplies, causing a rise in heat-related deaths and reducing crop yields — if the world does not dramatically cut its dependence on fossil fuels, according to a study by 19 scientists published Monday.

The study, in the Proceedings of the National Academy of Sciences, contemplated the consequences of two distinct paths the industrialized world could take in response to a changing climate: maintaining its current reliance on coal, oil and gas, or massively investing in new technologies and alternative energy sources. Burning fossil fuels adds carbon dioxide to the atmosphere, which increases global temperatures by trapping more of the sun's heat.

Using two new computer models on climate change, the study focused exclusively on impacts in California, citing the state's economic importance, diverse climate and longtime reputation as a leader in environmental protection.

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The scientists' findings were stark. Human activities already have caused an increase in the amount of gases that contribute to global warming, and as population grows, some further increases are inevitable, the researchers said. Because of that, the state will have to endure not only higher temperatures but significantly longer summer heat waves no matter which path is taken, they warned.

Meanwhile, the Sierra Nevada will receive substantially less snowfall. Much of the state's water comes from mountain snow, and that snowpack could be reduced by 89% if greenhouse gases are not reduced, the study predicted. Rising temperatures could also produce more heavy precipitation in the spring, forcing managers of rapidly filling reservoirs to release water they would prefer to save for dry summer months.

"The state is not set up to deal with what could be a thorny problem over how to deal with shortages and diversion," said Michael Hanemann, director of the California Climate Change Center at UC Berkeley.

Nonetheless, the study concluded that aggressive measures to reduce greenhouse gas emissions could make a dent in the global warming problem.

"The question is, are you going to wait 25 years to solve this, or are you going to act on the vast preponderance of evidence that we are accumulating?" said one of the study's authors, Steve Schneider, co-director of Stanford University's Center for Environmental Science and Policy.

If the world continues to release high levels of heat-trapping gases, California's average statewide temperature is likely to rise 7 to 10 degrees Fahrenheit by the end of the century, the study concluded.

On the other hand, if nations undertake large-scale reductions — which the scientists conceded would require major economic and behavioral changes — temperatures are still likely to rise 4 to 6 degrees by 2100, the study found.

"The choices that we make today and in the near future will determine the outcome of this giant experiment we are undertaking with our planet," said Katharine Hayhoe, an Indiana-based climate consultant who was the lead author of the report. An increase of 7 to 10 degrees "is enough to make many coastal cities feel like inland cities do today, and enough to make inland cities feel like Death Valley," Hayhoe said.

If fossil fuel use is not reduced, the study warned, heat waves in Los Angeles would become six to eight times more frequent, and heat-related deaths would increase five to seven times.

The statewide average temperature, taking in day and night throughout the year, is about 60 degrees. It has slowly risen over the last two decades, climate records show. If it continues rising, scientists say it will exceed the range of historical variation within the next 10 years.

The report was produced by scientists who have specialized in the study of climate change. They include researchers from Stanford, UC Berkeley and the Scripps Institute of Oceanography in La

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Jolla, as well as government experts from the U.S. Department of Agriculture's Corvallis Forestry Sciences Laboratory in Oregon.

While the findings were largely in accord with previous predictions about global warming in California, some conclusions were more extreme, a fact that some participants attributed to new, more detailed climate modeling.

"They are very dramatic, but we have seen similar numbers before in other studies," said Peter H. Gleick, president of the Oakland-based Pacific Institute for Studies in Development, Environment and Security and a 2003 MacArthur fellow who has been studying climate change since the 1980s.

"I guess the surprise is that even the so-called good news doesn't look so good. Those scenarios look very ugly for California. Every scenario shows California's snowpack going away."

Rising temperatures could also affect the state's multibillion-dollar farming industry, the scientists noted. A particular concern is the Napa and Sonoma wine grape harvest, which experts said could be hurt by even a slight uptick in temperature.

"Under higher temperatures, grapes fall off the vine more quickly," and the quality of the valuable fruit can be harmed, said Chris Field, director of the department of global ecology at the Carnegie Institution. Any sizable increase in temperatures "threatens California's status as the leading producer of wine grapes," he said.

Shell confirms refinery won't close

By Dale Kasle, August 14, 2004

Shell Oil Co. confirmed Friday it is delaying the shutdown of its Bakersfield refinery, leaving the plant open until next spring to give potential buyers time to complete a deal.

"It's an opportunity to let the sale process mature a little longer," said Shell spokesman David Harrington.

Consumer advocates and elected officials hailed Shell's decision as a victory for their efforts to pressure the oil giant.

Attorney General Bill Lockyer, who's been investigating the matter, said his hand was strengthened significantly by an independent consultant's report showing the refinery "can be a viable enterprise." He said there are several interested buyers for the plant.

Lockyer, who commissioned the report, declined to release it, citing a confidentiality agreement with Shell. The report's author, Malcolm Turner of Dallas-based Turner, Mason & Co., couldn't be reached for comment.

Shell said the refinery, which supplies 2 percent of California's gasoline and 6 percent of its diesel, will stay open until March 31.

The company said there is an outside chance the reprieve will last until only Dec. 31. That's because Shell is operating under a consent decree in which it has pledged to federal officials to reduce pollution at its U.S. refineries by a certain overall amount this year.

Keeping Bakersfield open could complicate those efforts, but Harrington said the company is confident it can keep the plant open beyond Dec. 31 and stay true to the decree.

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Shell had been criticized roundly for its decision to close the plant, with experts and elected officials saying the shutdown could mean more expensive fuel at a time when many Californians are smarting from \$2-plus prices.

The company said the plant was becoming increasingly uneconomical, but some elected officials said they suspected Shell was attempting to manipulate the market.

"After months of misleading statements by Shell Oil, I believe we now have proof that Shell had no credible economic reason to abandon this important facility," Sen. Barbara Boxer, D-California, said in a prepared statement.

Drivers Get a Break on Gas Prices

Cost at Pump Has Fallen Even as Oil Reaches For \$50 a Barrel, but Respite Isn't Likely to Last

By THADDEUS HERRICK, THE WALL STREET JOURNAL, *August 18, 2004*;

Oil prices have been surging, but so far drivers are being spared the brunt of it.

At the pumps, gas averaged \$2.07 a gallon as recently as May 24, according to the Department of Energy's Energy Information Agency. At the time, oil was trading for around \$42 a barrel.

Now, with crude-oil prices threatening to reach \$50, gas prices have stabilized or even come down in many states. The average price per gallon for regular unleaded fuel is now \$1.88, though prices vary widely around the country.

Californians pay an average of \$2.09 a gallon for regular fuel, according to an American Automobile Association survey. That would be a bargain for Hawaiians, who pay \$2.35 for that same gallon. Meanwhile, residents of Oklahoma and Georgia shell out an average of only \$1.75 for a gallon of regular.

Unfortunately for Hummer enthusiasts and resolute non-car-poolers, this situation isn't likely to last. What has been keeping prices low is that the summer crunch for gas wasn't as severe as expected because Americans appear to have driven less. After growing by an astounding 3% for the first four months of the year, demand has declined to normal levels. That also helped keep gasoline inventories healthy.

The trouble is that even with this cushion, growing world consumption of oil and tight supplies are likely to keep the price of gasoline high for the months to come. Analysts say higher costs will be passed along to consumers in the coming weeks and see the average price of gas surging above \$2 again.

"These issues are not going to go away," says Dave Costello, an economist with Energy Information Administration, which forecasts that crude oil will sell for close to \$40 a barrel through 2005. Oil prices make up about half the cost of every gallon of gas, so high costs eventually get passed along to consumers. Indeed, prices for gasoline on the Gulf Coast spot market shot up 16% last Friday from a week earlier, a sign that retail prices won't be long behind. Heating oil may offer a reprieve: So far analysts say demand for it should be lower than last year.

The variations in gas prices around the country result from differences in regulations and in market forces. California, for instance, is one of the nation's tightest gasoline markets, lacking the same access to Gulf Coast refineries that help keep prices steadier in other parts of the nation. Nor do those refiners produce California's required low emission blend of fuel.

Similarly, when New York and Connecticut switched this year from an additive known as MTBE to ethanol-blended gasoline, the two states left themselves vulnerable to refinery outages, because

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nearby states that don't make the ethanol blend are powerless to help out. And the Midwest continues to struggle every year with the potential for price spikes because in times of tight supply they have to rely on emergency imports from the Gulf Coast or even Canada or Europe.

For consumers, the likelihood of higher gas prices means fuel economy will continue to grow in importance. If you drive 15,000 miles a year, you'll pay \$1,800 annually to fuel up a four-wheel-drive Ford Explorer sport-utility vehicle with an eight-cylinder engine that averages 16 miles to the gallon. That's according to a U.S. government estimate based on \$1.92-a-gallon gas.

By driving a four-cylinder Toyota Camry -- by no measure a small car -- averaging 26 miles per gallon, you can slash that fuel bill to about \$1,100. And if you go a step further and buy a Toyota Prius, which runs on a gas-and-electric hybrid engine and gets 55 miles to the gallon, you'll pay just \$524 a year at the pump.

Such an investment could pay off for years to come. In the short term, analysts say a gasoline price spike may be small and short lived. But there will be longer-term pressure keeping prices high.

The reason: In an oil-thirsty world, refiners are finding it increasingly difficult to get the oil they need to make gas and other petroleum products. Presently, the little crude oil that is available is coming from the Persian Gulf, which has higher sulfur content than many U.S. refineries can process.

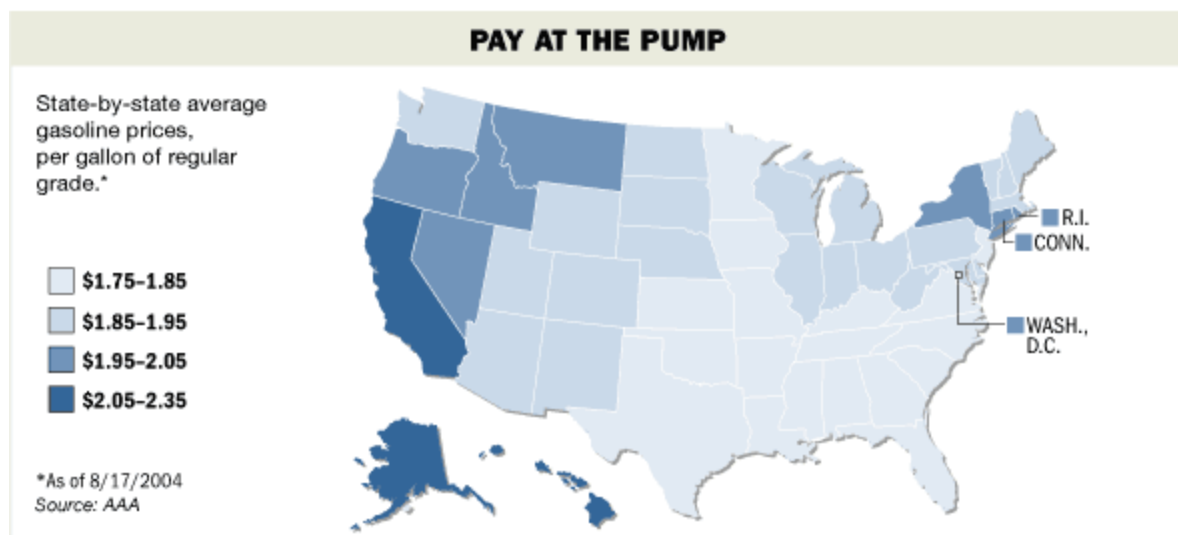
The more troubling problem is that there aren't enough refiners. The number of U.S. plants has declined by about 50% since 1980, as refiners closed or sold off their plants because of weak profit margins. Meanwhile, there hasn't been a new refinery built in the U.S. for close to 30 years due to growing regulation and community opposition.

U.S. refiners have made up the gap by boosting output at existing plants and importing more gas, increasingly from Europe. But gas imports, which now account for about 10% of U.S. supply, have been spotty. Imports dropped significantly earlier this year when federal rules mandating gasoline with lower sulfur content took effect, though they have rebounded in recent weeks.

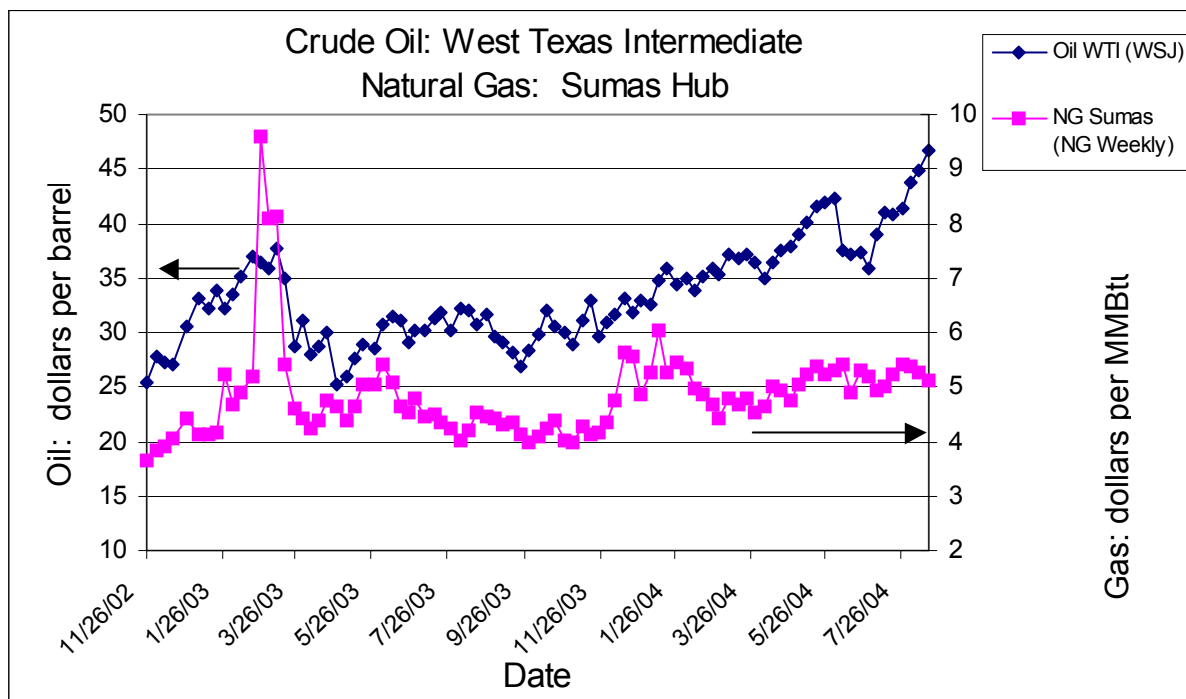
Even while gasoline demand has dropped in the U.S., demand for crude oil continues to soar. The Paris-based International Energy Agency says world demand grew 1.7 million barrels a day in 2003 and expects it to grow another 2.5 million barrels a day this year.

Add to that scenario potential disruptions from key suppliers such as Venezuela and Russia, and crude oil could easily hit \$50 a barrel within days, a price refiners would likely pass on to drivers.

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Petroleum reached a new record price of \$46.75/barrel this week as continued concerns about supply from the Middle East, Russia, and Venezuela kept prices up. Gasoline prices were down about one cent per gallon from last week, while diesel prices increased slightly. Wholesale gasoline and diesel prices moved up for the third week in a row, foreshadowing a possible increase at the pump as we move into the last, and busiest month, of the summer driving season



Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 8/24): 42,357 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

- Weekly Range at Mid-C: \$45 – 53.7 per MWh, Ave. = \$49.9
- Approximate change from previous week: \$-6.4 per MWh
- “Normal” price range, before 5/00: \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$45.61 per barrel (year ago: \$30.71)
- Seattle gasoline price (8/24): \$1.97 per gallon (year ago \$1.78),
- Natural gas, Sumas Hub: \$4.87 per million British Thermal Units (year ago \$4.22)
- Approximate change from last week: Oil: -1.14 \$ per barrel; Nat. gas: -.24 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o July 22, 2004: Third consecutive day of record electricity use.
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o New energy saving program seeks cutbacks during peak usage time (SacBee, Aug 15)
- o Strategic oil reserves are on front burner (WSJ, Aug 25)
- o Why hydropower should be included in Renewable initiatives (Energy Central, Aug 19)

5. River and Snow Pack Information (Updated: Aug 10, 2004)

- Observed July stream flow at The Dalles: 70% of average,
- Observed July precipitation above The Dalles: 75% of average,
- Estimated Jan.-July runoff at The Dalles: 83 MAF, 77% of normal,
- Federal hydropower generation in July: 7,714 aMW, 1995-2002 average: 9,661 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: August 25, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 1,654 MW
 - o Canada (import from) 90 MW
 - o Net power export: 1,564 MW

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New energy-saving campaign seeks cutbacks during peak usage times **The 'Flex Your Power Now' effort will issue alerts when system is under biggest strain.**

By Carrie Peyton Dahlberg, SacBee August 15, 2004

With summer finally showing its sizzle, utilities and electricity experts hope to enlist Californians in a new kind of energy-saving program.

It's conservation, with a time-sensitive twist.

The creators of "Flex Your Power Now" want people to target their cutbacks to just a few hours on those few days when the electric grid could come under the greatest strain.

"We'll try not to overuse it - it'll be when we need it the most," said Stephanie McCorkle, spokeswoman for the California Independent System Operator, which runs much of the state's interconnected network of power plants and lines.

The ISO has teamed up with utilities and state agencies to create an alert system. The system would contact businesses and government agencies directly and would use the media to inform residents whenever California is at risk of a Stage 1 power emergency, when reserves could drop below 7 percent.

Sometimes the energy-saving message will go out the night before and sometimes that morning. It will be a simple call, usually for the hours between 4 p.m. and 6 p.m. - just turn off unneeded lights and computers, set the thermostat to 78 degrees, and avoid using appliances like stoves or clothes dryers.

Those small things could have enormous results.

If every household in the state set its thermostat at 78 degrees instead of 72 degrees during the hottest part of the afternoon, California would save about 2,000 megawatts, said Claudia Chandler, assistant executive director of the state Energy Commission.

"That's immense. That's Diablo Canyon" - one of the state's giant nuclear power plants, she said.

The hope is that if Californians step up at those critical times, their efforts could ease the burden on the grid to give it greater flexibility if power plants are suddenly lost to a breakdown, or transmission lines are hampered by fires.

The Energy Commission already knows that conservation works. It estimates that during the energy crisis of 2001, people saved up to 5,500 megawatts in a frantic push to avoid rotating blackouts.

Now, though, some of that conservation effort has fallen off, but no one is advocating that California go back to the same emergency mentality. The state's power supply system is in better shape today than during the crisis, although there are some worries about the future, experts say.

That's why, while using less power at peak demand times is still important, the focus has now shifted to fine-tuning and targeting people's conservation instincts.

So far, the special conservation call has gone out four times this summer. The first was on July 26, and the most recent was Wednesday, McCorkle said. There's no easy way yet to track how effective it has been, but a panel is at work on developing ways to measure the program's impact, said Christy Dennis of Pacific Gas and Electric Co.

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PG&E and Southern California Edison are devoting roughly \$4 million to promoting the "Flex Your Power Now" drive, said Wally McGuire, the consultant coordinating the campaign.

That's dwarfed by the \$65 million the state and utilities spent during the energy crisis on an earlier, far more intensive campaign, which McGuire said saved the state as much as \$600 million when wholesale electricity prices soared.

McGuire plans to use radio ads, starting this week, to spread the word about the program, and PG&E, Edison, San Diego Gas & Electric Co. and the ISO are coordinating their public information efforts.

They hope that in time, "Flex Your Power Now" days will become as well known as "Spare the Air" days, which air officials use to urge people to drive less and to be cautious with outdoor activities when air quality is poor.

The Sacramento Municipal Utility District is evaluating whether to join the latest conservation effort, but meanwhile will continue to promote its own energy-saving programs, which also encourage people to reduce consumption on hot days.

"Conservation is always important," said Jim Shetler, SMUD assistant general manager. "That always helps us have a little more margin for the unknowns."

Strategic Oil Reserves Are on Front Burner

U.S., Other Nations Consider Options of Tapping Stocks Amid Tight Spare Capacity

By JOHN J. FIALKA , WSJ Aug 25

Officials in the U.S. and other industrialized nations are considering whether to dip into strategic reserves of 1.4 billion barrels of oil stockpiled to offset future supply disruptions and curb soaring prices, as the world's oil producers reach the limits of their ability to pump excess supplies.

The matter of whether and how to use these reserves in an extraordinarily tight world oil market is under intense debate, because the lack of surplus crude-oil production capacity leaves the reserve stocks as the only "cushion" against future price and supply shocks.

Both the Bush administration and officials of the International Energy Agency, of Paris, are weighing the tricky economic and political options involved in the coordinated use of such stocks. After a meeting yesterday in Paris with U.S. Energy Secretary Spencer Abraham, IEA Executive Director Claude Mandil said "the prospect of using [strategic] stocks is higher now than it was a year ago."

Mr. Mandil said the U.S. isn't prepared, at the moment, to use a release of reserves to deflate some of the speculative pressure pushing crude-oil prices upward. He added that the "thin cushion of spare capacity" means industrial nations are more vulnerable to supply disruptions and may have to respond quickly to minimize accompanying price shocks.

He said industrial nations are preparing to do that: "We don't need any preset trigger, we just need a consensus. This can be reached in an exchange of e-mails."

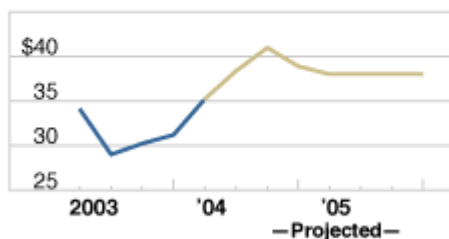
The largest player in any use, or threatened use, of the reserves is the U.S., whose Strategic Petroleum Reserve of about 667.1 million barrels of crude oil is the world's largest. In recent days, Bush administration officials have discussed ways the reserves might be used to curb speculators who have been driving up the price of crude oil. So far, the option has been rejected.

RISING TIDE

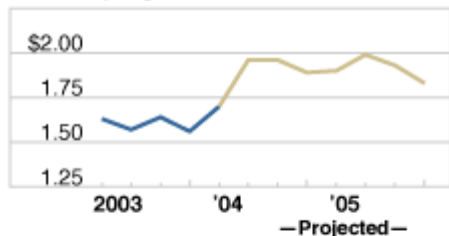
Soaring energy prices are increasing the pressure on governments to tap their oil reserves.

Actual and projected energy costs

Average price of crude oil (WTI spot), in dollars per barrel

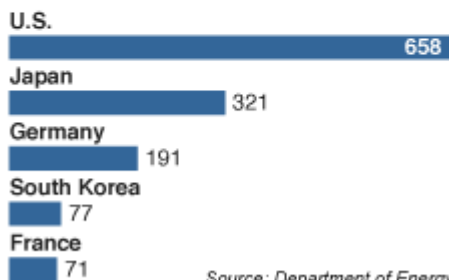


Average price of retail gasoline (all grades), in dollars per gallon



Largest government oil stocks

As of April 2004, in millions of barrels



Source: Department of Energy

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"The president has said repeatedly that the SPR is to be used in times of emergency and that he would not play politics with the reserve," said White House spokesman Trent Duffy. He wouldn't comment on the administration's deliberations about the reserve, other than to say that the president's economic and energy advisers are closely watching world oil supplies and how they might affect "national security as well as economic security."

This week, futures market prices for crude oil hovered around \$46 a barrel, a level that many analysts say will be damaging to the economy if it continues.

"We are in the eye of the hurricane," says Larry Goldstein, president of the Petroleum Industry Research Foundation, an independent firm in New York. "Prices are going to remain higher, and higher longer than we've been used to in the past."

Mr. Goldstein and other industry analysts say President Bush faces three options regarding the reserve. The first would be to stop buying crude oil for the reserve, which would release about 100,000 barrels a day of crude into the market.

That isn't much, given the 20 million barrels of oil consumed daily in the U.S.. Still, Mr. Goldstein says the move would send a "psychological signal" to the hedge funds and other speculators who have been bidding up futures prices. "It would tell them:...Not only are they taking a market risk, but they're taking a government risk," he said.

The current administration policy is to continue filling the strategic reserve up to a level of 700 million barrels and to use it only in case of

a major supply disruption.

On Monday, the issue was injected into the 2004 presidential race as Phil Singer, a spokesman for John Kerry, asserted that President Bush's refusal to stop filling the reserve "sends a dangerous signal to the market, which continues to drive up prices." Sen. Kerry, he said, would "take the SPR fill program off of automatic pilot" until oil prices return to normal levels.

If stopping the fill didn't damp speculation, the administration could authorize so-called swaps -- actual releases of crude oil from the reserves to companies that would promise to pay it back with interest in the form of additional oil.

The strategic reserve was created shortly after the 1974 oil shock and has been used only once to counter a potential supply disruption. That was in January 1991, when U.S. forces attacked Iraqi units occupying Kuwait in the Persian Gulf War. On six occasions, however, oil has been released in swaps that temporarily increased supplies, most recently by the Clinton administration in 2000, which also was an election year.

If the Bush administration orchestrated another swap, Mr. Goldstein argues, the move could temporarily lower futures prices and force hedge funds and speculators to "take some of their money out of the market."

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A third option, he said, would send a still more powerful signal: to stage another Gulf War-style release, coordinating it with other industrial nations through the IEA.

Other industry experts were less optimistic about the use of the reserves to calm prices."

Our traditional position is against that," said Robert Slaughter, president of the National Petrochemical and Refiners Association, a Washington trade group. He added that "there is some disagreement among our members as to whether the fill [of the reserve] should continue."

John Felmy, chief economist of the American Petroleum Institute, another industry group in Washington, warned that any price-influencing use of the reserve could be quickly countered by oil-exporting nations.

Major exporters would have to be lined up in support before such a strategic use of the reserve was undertaken, Mr. Felmy said. "They might not be able to increase production right now, because they are going flat out, but they can surely cut production," he said.

Why Hydropower Should be Included in Renewable and Sustainable Energy Initiatives

Linda Church Ciocci, Executive Director, National Hydropower Association, Energy Central, Aug. 19

As the many power, environmental and societal benefits of the hydropower resource are being debated in both national and international forums, the National Hydropower Association (NHA) offers twelve reasons why hydropower should be included in national and international renewable and sustainable energy initiatives. In fact, excluding hydropower would only shortchange both the national and global communities.

Excluding hydro would unnecessarily limit the tools available to policymakers as they wrestle with air pollution, a major health concern, and carbon emissions, a major contributor to global warming. Those advocating for a thoughtful, long-term and sustainable approach to dealing with these and other complex environmental issues should support hydropower and its many benefits.

12 REASONS TO INCLUDE HYDROPOWER IN RENEWABLE INITIATIVES

1) HYDROPOWER IS "RENEWABLE"

First and foremost, hydropower should be included in renewable energy policies because it is a renewable resource. Hydropower, by definition, is a renewable resource because it is produced from elemental, natural and recurrent resources. Hydropower converts rainfall (and snowfall) into energy.

Like wind, solar and geothermal, hydropower's "fuel" is essentially infinite and is not depleted during the production of electricity. Hydropower facilities simply harness the natural energy of flowing and falling water to generate electricity. Therefore, all hydropower projects – small or large, run-of-river or with storage reservoirs – should be considered "renewable."

2) HYDROPOWER HELPS IMPROVE THE AIR WE BREATHE

Since hydropower projects use water to generate electricity, they do not produce air pollution, which, among other things, causes considerable human health problems. Significant quantities of harmful nitrogen oxide (NOx), sulfur dioxide (SO2), mercury, lead and other fine particulates are avoided through the use of hydropower facilities.

The health problems associated with air pollution, most notably respiratory and cardiovascular ailments, would be substantially worse if hydropower facilities were not used to generate electricity. Simply put, hydropower provides major environmental benefits in terms of fighting air pollution. Relying more on

hydropower to generate electricity would only lessen the air pollution problems which are increasingly becoming an issue for our society.

3) HYDROPOWER HELPS FIGHT GLOBAL WARMING

The United States is responsible for approximately 25 percent of the world's carbon dioxide (CO₂) emissions, making it the largest CO₂-producing nation in the world. The use of hydropower, however, avoids the release of a tremendous amount of CO₂, the primary cause of global warming. In fact, NHA estimates that U.S. hydropower generation in 2002 avoided 130 million metric tons of carbon.

Put another way, the carbon emissions avoided by U.S. hydropower generation is equivalent to removing approximately 40 percent of the vehicles from U.S. roadways. What's more, if the United States developed the 21,000 megawatts of undeveloped hydropower potential at existing dams identified by the Department of Energy (DOE), the U.S. could avoid an additional 42 million metric tons of CO₂, clearly a significant contribution to the fight against global warming.

Finally, recent studies have shown that hydropower reservoirs can in fact act as "carbon sinks," helping further reduce the impacts of carbon on our atmosphere by trapping it in the reservoir or by fixing it into less harmful compounds. Hydro's role in reducing global warming needs to be taken into account as we develop broad energy policies and promote new resource development.

4) HYDROPOWER IMPROVES ELECTRIC GRID STABILITY AND RELIABILITY

The management of our electricity grid depends upon fast, flexible generation sources to meet peak power demands, maintain level system voltages and quickly restore service after a blackout. Electricity generated from hydropower can be placed on the grid faster than any other energy source. Hydropower's ability to go from zero power to maximum output rapidly and predictably makes it exceptionally good at meeting changing loads and providing ancillary electrical services that maintain the balance between electricity supply and demand.

Because hydropower is generated within seconds of when water begins rushing through its turbines, hydropower is particularly adept at providing incremental bursts of power. This is of great value to electric power grid operators and managers, which is why they often rely on hydropower's speed and flexibility to meet moment-by-moment fluctuations in electric power demand and to restore service after a blackout.

Hydropower's "blackstart" capability – the ability to restart generation without an outside source of power – is also of great value to the grid. Hydro's blackstart role is unique and has shown its great value time and time again. Also, large hydro projects can at times withstand large system disruptions. Other types of power plants are not equipped to do so and will trip off-line or choose to shut down during major disruptive events. Due to its ability to support the electric power grid, power from hydroelectric facilities is indeed unique.

5) HYDRO SUPPORTS ENERGY SECURITY, ENERGY INDEPENDENCE AND PRICE STABILITY

Water from rivers that is used for hydropower production is a domestic resource. What's more, water is a resource that is not subject to market fluctuations or withholding of supply, unlike natural gas or oil. Also, unlike other renewable resources, hydro is not an intermittent technology. Moreover, hydropower is the only large-scale renewable source of electricity that helps optimize the use of thermal plants. Again, hydro shows unique value.

More important, there is a large amount of domestic hydro capacity waiting to be developed, which will only lessen our dependence on foreign and fossil sources of energy and help further stabilize electricity prices. There is also tremendous potential for new hydro development worldwide.

6) HYDRO IS ENERGY-EFFICIENT AND COST-EFFECTIVE

Hydropower is the most efficient generating resource in converting mechanical energy to electrical energy – with an efficiency rate frequently exceeding 90 percent – and it is improving. Further, hydro's operational costs are low and predictable since there are no fuels to find, transport, and burn. Once its capital costs are recovered or ameliorated, hydropower is the most affordable energy source in use today.

7) HYDRO PROVIDES SIGNIFICANT PUBLIC BENEFITS

Unlike other generation resources, hydropower provides a wide range of non-power benefits including recreation, flood control, water supply, navigation and irrigation. Hydro projects are truly multi-use projects that provide benefits to a wide range of people. For example, even very small hydro plants often include recreational amenities such as boating areas, fishing platforms, picnic grounds and hiking trails that help enhance the quality of life for residents of local communities.

In fact, hydropower projects in the U.S., in terms of recreation, provide over 47,000 miles of shoreline with over 2,000 water access sites; over 28,000 tent/trailer/recreational vehicle sites for camping, more than 1,100 miles of trails and over 1,200 picnic areas. No other energy source can match hydro's multi-use attributes.

8) HYDROPOWER SUPPORTS THE DEVELOPMENT OF OTHER RENEWABLES

As previously discussed, hydropower facilities provide a unique value that allows them to respond immediately to fluctuating electricity demand. While this flexibility is critical in terms of grid stability, this unique feature also makes it the most efficient and cost-effective way to support the use of intermittent renewable sources of power, such as wind or solar energy. While the concept of blending renewable resources is relatively new, it is clear hydropower can support the additional development of other renewables and assist the nation as it moves more rapidly to a greater reliance on renewable energy.

9) HYDROPOWER CONTRIBUTES TO STORAGE OF FRESH AND SAFE WATER

Hydropower reservoirs harvest rainfall, thereby storing and supplying fresh water for drinking and irrigation. By storing and managing water, hydropower facilities can protect aquifers from depletion and reduce our vulnerability to costly and deadly floods. Hydro also helps to manage irregular and unevenly distributed supplies of water.

Hydro contributes to human welfare by: 1) ensuring safe and sufficient drinking water and sanitation, 2) enhancing food security and self sufficiency by making irrigation water available.¹ Reservoirs can also provide a stable source of water for industrial development.² Clearly, hydro has a role in stabilizing our world's water supply and improving access to safe, clean water for people in developing nations, a major initiative of the United Nations.

10) HYDRO PROJECTS ARE UPGRADEABLE, PROVIDING POWER FOR TODAY AND TOMORROW

With an average life span of up to 100 years, hydropower projects are clearly long-term investments that provide benefits for generations and generations of people. Hydropower projects, however, can also be easily upgraded to take advantage of the latest power and environmental technologies and to further their lifespan.

For example, there are over 4,300 megawatts of potential new hydropower capacity in the United States at existing hydropower projects. Known as incremental hydropower, this generation potential can be quickly developed by increasing the efficiency of projects or by adding capacity to underdeveloped projects. There is enough incremental hydropower capacity in the U.S. to meet the electricity needs of the states of New Hampshire and Vermont. Put another way, it is enough yearly power for 1.4 million homes. Hydropower is a flexible resource; one that is truly an energy source for future generations.

11) NEW HYDROPOWER TECHNOLOGIES ARE EMERGING

Hydro is not only a large scale resource; small scale hydropower is widely used throughout the world. In addition, exciting new hydropower technologies are being researched and developed – technologies that will allow hydro to play a strong role in providing distributed generation and provide energy to remote communities. These technologies, such as free-flow hydro, micro-hydro and irrigation hydro, also have minimal, and in some cases, no environmental impact. Small turbines can be added to aqueducts, public water supply systems, storm systems and cooling ponds for thermal plants. There is a wide variety of opportunities and we are seeing small hydro being deployed today in growing countries.

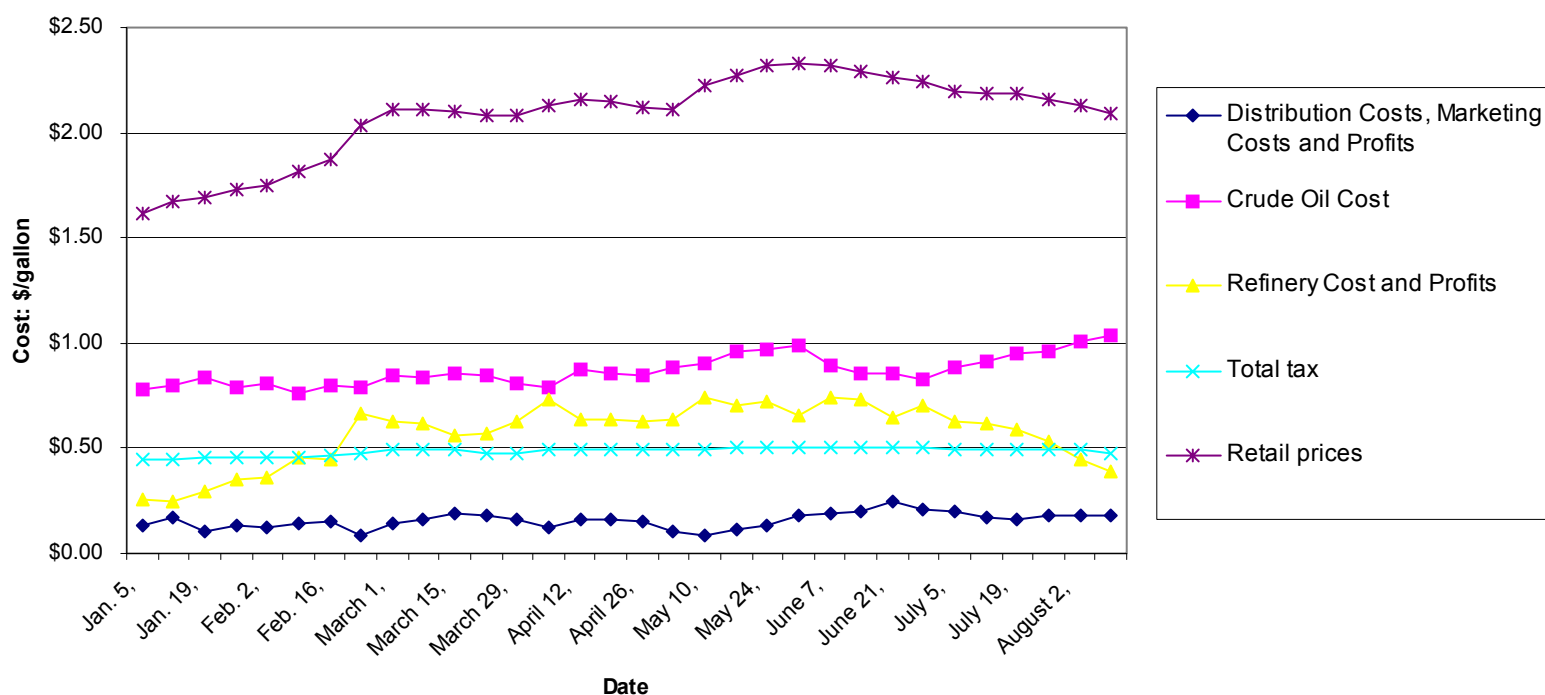
While hydro's future will continue to rely on traditional projects – large and small – these new, emerging technologies will serve as a key component to hydro's future growth and will expand our thinking and definition of hydropower. In fact, early DOE estimates of the potential for such development indicate that U.S. hydro production could double. Hydro is a resource for the future that possesses exciting new technologies and potential.

12) HYDRO HAS OVERWHELMING PUBLIC SUPPORT

A 2002 public opinion survey conducted in the United States by Bisconti Research, Inc., a leading public opinion researcher, found that 93 percent of the respondents believe hydropower is an “important energy source for the future.” What's more, 89 percent said they favor the use of hydropower as an energy source. Additionally, 74 percent approved of the federal government providing incentives for the development of unused hydropower capacity.

Gasoline and diesel costs have declined slightly even as crude oil costs have risen in recent weeks. The primary reason for this counterintuitive phenomena is that refinery margins (costs and profits) have fallen steadily over the last two months as refineries ran production flat out (with no major accidents) and fuel inventories rose. See chart below for gasoline component costs in Calif.

Gasoline component costs



Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 9/07): 39,986 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

- Weekly Range at Mid-C: \$34.4 – 43.4 per MWh, Ave. = \$38.7
- Approximate change from previous week \$-11.2 per MWh
- “Normal” price range, before 5/00 \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$43.35 per barrel (year ago: \$29.07)
- Seattle gasoline price (9/08) \$2.01 per gallon (year ago \$1.95),
- Natural gas, Sumas Hub: \$4.25 per million British Thermal Units (year ago \$4.33)
- Approximate change from last week. Oil: -2.26 \$ per barrel; Nat. gas: -.62 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o July 22, 2004: Third consecutive day of record electricity use.
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o Uncertainty zaps power construction (SacBee, Sept. 2)
- o Greenspan says economy was slowed by oil prices (NYT, Sept. 8)
- o Laissez-Faire My Gas Guzzler, Already (NYT, Sept. 8)

5. River and Snow Pack Information (Updated: Sept. 8, 2004)

- Observed Aug stream flow at The Dalles: 86.1% of average,
- Observed July precipitation above The Dalles: 75% of average,
- Estimated Jan.-July runoff at The Dalles: 79.5 MAF, 74% of normal,
- Federal hydropower generation in Aug.: 7,033 aMW, 1995-2002 average: 8,166 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: Sept. 8, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 2,363 MW
 - o Canada (exported to) 688 MW
 - o Net power export: 3,051 MW

Uncertainty zaps power construction

Many projects are in limbo as California awaits market clarity.

By Dale Kasler, Sac Bee, Sept. 2.

Three years after the energy crisis faded from view, California's electricity picture remains uncomfortably muddled.

After withstanding record-high consumption levels this summer, the state will surely need additional power plants over the next two years to serve a rising population and a growing economy.

But it's uncertain if California will see a big spurt in power plant construction. Financial problems bedeviling some of the top generators, along with California policy-makers' inability to complete a new structure for the state's electricity market, have left a good many construction projects in limbo.

It remains to be seen whether Gov. Arnold Schwarzenegger's expected veto of a bill that would restore regulation in the industry will bring clarity or more confusion to a situation that begs for clarity.

"There's still too much uncertainty," said John Olson, a Houston investment analyst who tracks California's power industry.

Granted, more than 8,000 megawatts' worth of new plants, enough to power 6 million homes, have been built since the peak of the energy crisis in early 2001. Construction is under way on additional plants, including a new gas-fired plant the Sacramento Municipal Utility District is building alongside the old Rancho Seco nuclear plant.

And independent "merchant" generators such as San Jose-based Calpine Corp., which builds plants and sells the power to utilities such as SMUD, say they believe Schwarzenegger's veto will help set the table for a new free-market era of plant construction.

"It leaves the market in better shape," said Calpine spokesman Kent Robertson.

But hurdles remain. Olson said investors and lenders are still leery of the power plant industry, which took a big fall in late 2001 after Enron Corp. went bankrupt. They're particularly nervous about sinking money into California energy projects, given the state's reputation for red tape and the not-so-distant memory of Pacific Gas and Electric Co.'s bankruptcy reorganization, said Olson, of Houston investment firm Sanders Morris Harris.

Finally, investors are awaiting the outcome of a showdown over the design of the California market, a dispute pitting the free-market Republican governor against Democratic legislators and their consumer-advocate allies.

Schwarzenegger is poised to veto AB 2006, by Assembly Speaker Fabian Núñez, a just-passed bill that would have partly returned regulation to the electricity business in California. The bill would have given investor-owned utilities like Southern California Edison, which sponsored the legislation, a leg up on building new plants by giving them greater assurance that construction costs could be passed on to ratepayers.

The governor's veto would keep California on a path toward a free-market system. It would keep intact a 2-year-old law requiring the utilities to hold a kind of auction for new plants, giving

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independent "merchant" generators an opening to bid for the right to build. The Public Utilities Commission is expected to complete the bidding rules by year-end.

Merchants say they can build plants more cheaply than the utilities and are eager to bid. But consumer advocates blame merchants for manipulating power supplies and prices during the energy crisis - and are threatening a ballot initiative that would revive the gist of AB 2006 if Schwarzenegger follows through on his threat to veto the bill.

"If the governor vetoes 2006, he'll have left us no other options," said Bob Finkelstein, executive director of The Utility Reform Network in San Francisco. "This particular issue has caught the attention of California consumers and, by extension, California voters."

For three years the energy market in California has been in a kind of suspended animation. The investor-owned utilities have been getting big chunks of their electricity via the long-term supply contracts that Gray Davis signed with the merchant generators when he was governor in early 2001. As those contracts begin to run out, the state is calling on utilities to develop their own power-procurement strategies.

The PUC is requiring the utilities to have at least 95 percent of their power locked up long term, either through their own plants or long-term contracts, so they won't be at the mercy of the sometimes volatile spot market.

The PUC has also told the utilities they need a 15 percent reserve margin - a cushion of available surplus power - by January 2008 and soon will decide whether to accelerate that requirement to June 2006, as Schwarzenegger has urged.

That will require more power plants. But power plant construction of all types - in California and elsewhere - has slowed in the past two years. That's because of a slump in electricity prices and the fragile investment climate in the post-Enron era.

Enron's stunning collapse caused headaches throughout the fraternity of merchant power generators, as investors became alarmed about debt loads. Companies like Calpine saw their stock prices fall and were forced to sell assets and restructure their businesses as investors and lenders scaled back their commitments. Mirant Corp. and NRG Inc., two generators with plants in California, followed Enron into Chapter 11 bankruptcy reorganization.

The bottom line has been a chill on power plant projects. Although there are enough plants under construction to serve more than 3.5 million homes, some 8,000 megawatts of planned construction have been scrapped or placed on hold for financial reasons, according to the California Energy Commission. That would be enough power to serve more than 6 million homes.

With the state adding a half-million people and issuing nearly 200,000 housing permits a year, officials believe California needs every new megawatt it can find.

Consumption is up 6 percent this year, and the slowdown in plant construction has made for an unsettling summer on the state's power grid. California broke the record for electricity consumption five times even though the weather overall was relatively mild. Although the state avoided rolling blackouts, officials said the jump in demand leaves them worried about next summer and beyond.

"Once again next summer, we'll be gambling on the weather," said Gary Ackerman of the Western Power Trading Forum, an association of independent generators. "All we need is some combination of weather factors and an improving economy, and we could be in trouble."

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Greenspan Says Economy Was Slowed by Oil Prices

NYT, AP September 8, 2004

Federal Reserve Chairman Alan Greenspan said Wednesday the economy has "regained some traction" after a late spring slowdown that was triggered by a sharp spike in oil prices.

Greenspan's moderately upbeat forecast came as the nation entered the final two months of an election battle in which President Bush and Democratic challenger John Kerry have widely different views on how the economy is performing at present.

Normally, incumbent politicians are unhappy if the Federal Reserve is raising interest rates close to an election.

However, this time around, many private economists believe the Fed is probably helping the Bush campaign by signaling an intention to keep raising interest rates because such a stance supports the administration's view that the economy has begun to emerge from the recent slowdown.

In his testimony before the House Budget Committee, Greenspan said that two key indicators, consumer spending and housing construction, bounced back in July after a weak performance in June.

"Economic activity hit a soft patch in late spring after having grown briskly in the second half of 2003 and the first part of 2004," Greenspan told the committee.

"The most recent data suggest that, on the whole, the expansion has regained some traction," he said.

The Fed has boosted the federal funds rate, the interest that banks charge on overnight loans, from a 46-year low of 1 percent to 1.5 percent in the past two months. Economists believe the Fed will keep raising rates at a measured pace at coming meetings, including another quarter-point increase on Sept. 21.

Greenspan made no comments in his prepared remarks on the direction of interest rates.

He said that this year's slowdown "in activity no doubt is related, in large measure, to this year's steep increase in energy prices." The big jump in energy prices acts like a tax on consumers, leaving them less money to spend on other items.

In answer to questions, Greenspan told the panel that if it had not been for the jump in oil prices this year, he believed the country would "still be seeing some very strong growth."

Greenspan refused, however, to quantify how much the oil price increase had reduced growth, saying it had affected the economy in a number of ways such as depressing consumer confidence.

A big slowdown in consumer spending pushed overall economic activity down from a robust 4.5 percent rate of growth in the first three months of this year to a much slower 2.8 percent growth rate in the second quarter.

The slowdown has been accompanied by a significant slowing in job growth as well, although there was a bit of a rebound in August with payrolls rising by 144,000.

The state of the economy has become a debating point in the presidential campaign with Bush contending that his tax cuts averted a more serious recession in 2001 and are helping to promote a sustained recovery currently.

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Kerry contends that the tax cuts went primarily to the wealthy and have left the country with record budget deficits.

In response to questions, Greenspan said he believed the Bush tax cuts were well-timed to help the economy rebound from the last recession. But he agreed that there were other things the government could have done that might have provided an even bigger boost to growth.

Greenspan, as he has in the past, urged Congress to reinstate budget rules that were in effect through much of the 1990s that required any tax cuts or increases in benefit programs such as Social Security to be paid for either by tax hikes or spending cuts in other areas.

Greenspan warned that Congress must act with more urgency to address the country's long-term deficit problems before the retirement of the baby boom generation at the end of this decade.

``As a nation, we may have already made promises to coming generations of retirees that we will be unable to fulfill," he told the budget panel. ``If, on further study, that possibility turns out to be the case, it is imperative that we make clear what real resources will be available so that our citizens can properly plan their retirements."

Greenspan has suggested in the past that Congress consider raising the retirement age for receiving full Social Security benefits or adopting a less generous annual cost-of-living adjustment as two ways to trim payments to baby boomers.

Laissez-Faire My Gas Guzzler, Already

By SIMON ROMERO, NYT September 7, 2004

I don't like gas being this expensive," said Paul Kaesberg, an oncologist at the University of Wisconsin Hospital and Clinics in Madison who routinely pays \$1.90 a gallon. "My driving is integral to my job, it's integral to my pleasure in life. I won't cut back on that. I might cut back on other things."

Dr. Kaesberg, whose 2004 Acura sport utility vehicle gets 18 miles to the gallon, is typical of consumers who started the summer with the shock of \$2 a gallon gas, but resolutely kept driving. Even though oil prices have increased 30 percent in the last year, the nation's gusto for gasoline has not been shaken.

Over the Labor Day weekend, for example, about 28.7 million of the 34.1 million Americans traveling more than 50 miles from home were expected to be driving, a 2 percent increase from last year, according to AAA, formerly known as the Automobile Association of America.

The economy, of course, has felt an impact from higher energy prices. Many companies, including airlines and trucking fleets, have started tacking on surcharges to compensate for higher fuel costs for their services, effectively passing on the costs to consumers. That, in turn, has contributed to spurts of inflation over the summer. Manufacturers and retailers say higher energy costs remain a threat, even as manufacturing activity remains somewhat robust.

Some symbolic shifts in buying practices have also cropped up. Consumers are buying fewer Hummers while sales of hybrid vehicles are climbing; recreational boaters are opting to share their boats with friends instead of using two small vessels for an outing. But for the most part, Americans are not altering their fuel-consumption habits as they pay some of the highest prices ever for gasoline.

Purchases of items other than fuel do appear to be weakening, however, a familiar development during periods of rising energy prices. On Thursday, retailers reported weaker-than-expected sales

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in August, with sales rising just 1 percent in the month, as companies including Wal-Mart warned that earnings would fall short of expectations.

Still, such figures suggest that Americans are forgoing purchases of everyday items so that they can continue to drive as much as possible.

The four-week average for gasoline demand for the week ended Aug. 27 was 9.421 million barrels, essentially unchanged from the period a year ago, according to the Energy Information Administration.

Part of the explanation is because gasoline prices actually declined during the summer, to a national average of about \$1.86 a gallon, from a record of \$2.05 in May, while frenzied trading in financial markets pushed the price for a barrel of oil to nearly \$50 from \$40. (The price of crude oil is still far from its inflation-adjusted peak of about \$80 reached in 1980.) That is because refineries in the United States produced ample amounts of gasoline in the last three months, meeting demand from consumers even as speculators placed bets on future swings in the price of oil that may have had little to do with actual petroleum supplies.

"I don't think we're going back to \$50 without a big supply disruption somewhere," said Juha Laiho, a Houston-based oil trader for Fortum, a Finnish oil company. "It's logical for gasoline to pull back a bit."

Of course, gasoline at \$1.86 a gallon remains about 10 cents a gallon more expensive than at this time last year, according to the Energy Information Administration, crimping many drivers. Still, it would have to become much more expensive to instill a big change in driving habits.

Rebecca Lindland, a senior analyst for the automotive industry at Global Insight, estimates that gasoline prices would have to climb to a nationwide average of \$3 a gallon for at least six months to alter consumer behavior.

"Gasoline is still incredibly affordable," Ms. Lindland said. "Even with inflation it's not much more expensive than it was five years ago."

Some consumers are feeling the pinch, however. Michael McMillan, a firefighter in Los Angeles who makes the 104-mile round-trip commute three days a week from his home in Mission Viejo, Calif., said the price of gasoline was behind his decision to trade a Mitsubishi Montero sport utility vehicle for a Volkswagen Jetta, which gets almost double the gas mileage.

"I was really looking for something more economical for the drive," Mr. McMillan, 38, said. But judging from the parking lot at his station, he said: "You'd think there are no gas problems at all. You have a half dozen-plus jacked-up trucks back there on steroids."

Seeking out energy-efficient vehicles still seems to be the exception rather than the rule. Sales of recreational vehicles, for instance, climbed 14 percent in the first half of the year from the period in 2003 and rental reservations for the vehicles made in the early summer were up 34 percent from last year, according to the Recreation Vehicle Dealers Association in Fairfax, Va.

"People work too hard to let even \$50 extra in gas prices stop them from taking their vacations," said Phil Ingrassia, a spokesman for the association.

At convenience stores, which sell about 75 percent of the nation's gasoline, consumers are using credit cards for about 60 percent of fuel purchases, a 20 percent jump from last year, according to the National Association of Convenience Stores. Jay Ricker, who owns 31 convenience stores in

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northeastern Indiana, said he had seen little impact on purchases in his stores because of higher gasoline prices.

"There's a lot of grumbling, of course, but unless the price gets to \$3.50 a gallon behavior won't change," said Mr. Ricker, who added that he preferred lower gas prices so customers could continue buying higher-margin products at his stores. Gasoline in Indiana now costs about \$1.75 a gallon.

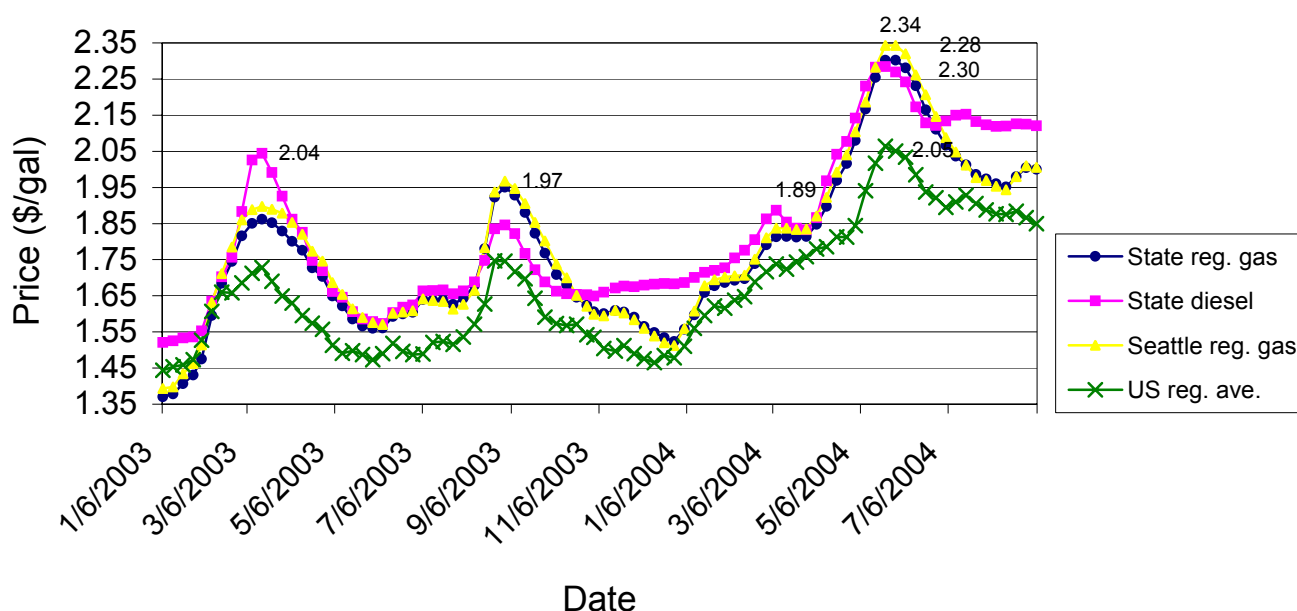
Some parts of the economy that depend heavily on oil are having a hard time. Airlines, for example, are struggling to find ways to cut fuel expenses that are expected to cost them \$6 billion more this year than last year. Airlines are doing everything from taxiing out to the runway on one engine to cutting the amount of reserve fuel they keep on aircraft in case of delays.

American Airlines, a unit of AMR, said its fuel expenses would be \$1 billion more this year than it expected, and \$300 million more in the third quarter alone, a reason why it is joining Northwest Airlines in charging passengers \$5 a ticket for trips booked through its reservations agents and \$10 for those bought at airports. American said that would raise \$25 million in revenue, hardly a dent in its fuel bill.

Fierce competition among airlines, however, has prevented the companies from making fuel surcharges stick through ticket price increases. Some low-fare carriers, including JetBlue Airlines, are better protected from rising fuel costs. David Neeleman, JetBlue's chief executive, told analysts this summer that the airline expected to cut its costs per available seat mile about 2 percent in the third quarter, even with higher fuel prices. That is because JetBlue hedged about 75 percent of its fuel purchases for this year.

Gasoline prices rose about 5 cents per gallon during the last weeks of summer. This is a typical pattern as it is a time when demand and prices usually rise as people get their last bit of traveling and vacation in before fall starts. Fuel prices are likely to decline through September and October.

WA State Gasoline and Diesel Prices: Jan. 03 - Sept. 04



Weekly Energy Status Report

1. Northwest Power Pool Status (WA, OR, ID, MT, WY, UT, No. NV, BC, AB)

- Power Pool peak load (Tuesday, 9/15): 42,105 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

2. Electricity, Petroleum and Natural Gas Prices

- Weekly Range at Mid-C: \$34.6 – 43.7 per MWh, Ave. = \$39.5
- Approximate change from previous week \$+0.8 per MWh
- “Normal” price range, before 5/00 \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$43.59 per barrel (year ago: \$28.13)
- Seattle gasoline price (9/15) \$2.01 per gallon (year ago \$1.95),
- Natural gas, Sumas Hub: \$4.21 per million British Thermal Units (year ago \$4.35)
- Approximate change from last week. Oil: 0.24 \$ per barrel; Nat. gas: -.04 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o July 22, 2004: Third consecutive day of record electricity use.
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o Looking for energy in the campaign (NYT, Sept. 13)
- o Blair warns of climate change threat (NYT, Sept. 15)
- o Ford lost its green machines (Seattle PI, Sept. 15)

5. River and Snow Pack Information (Updated: Sept. 8, 2004)

- Observed Aug stream flow at The Dalles: 86.1% of average,
- Observed July precipitation above The Dalles: 75% of average,
- Observed Jan.-July runoff at The Dalles: 83 MAF, 77% of normal,
- Federal hydropower generation in Aug.: 7,033 aMW, 1995-2002 average: 8,166 aMW.

6. Energy Conservation Achievement (Updated: Feb. 11, 2004)

- State Agencies: From Oct thru Dec 2003 electrical usage was 9% less and natural gas usage was 21.3% less compared to the same period in 2000.

7. Power Exchanged: (Updated: Sept. 15, 2004)

- Average flow of power during the last 30 days
 - o California (exported to) 2,748 MW
 - o Canada (exported to) 1,124 MW
 - o Net power export: 3,872 MW

Looking for Energy in the Campaign

NYT September 13, 2004

Presidential candidates have long dangled the promise of "energy independence" in front of the American voter. And all have known that it is an unattainable goal, largely because the United States, which uses one-quarter of the world's oil production, owns less than 3 percent of the world's oil reserves. What America can do, however, is reduce imports - by producing cars that require less gasoline and by developing other fuels that cars can run on. Over time, such a strategy could enhance our energy security and give us more influence over prices. It would also make a big dent in America's emissions of global warming gases.

John Kerry has an opportunity here. Rising gasoline prices and instability in the Persian Gulf have made energy a livelier campaign issue than usual. And while Mr. Kerry has hardly been immune to rhetorical overreach, he offers an energy agenda more adventurous than anything proposed by the Bush administration.

Mr. Kerry's approach is expensive, however, and depends on his ability to persuade voters that the government can afford his proposals. He wants to create a \$5 billion incentive program to help automakers retool their assembly lines to produce more efficient cars, and he would spend the same amount on consumer tax incentives to get people to buy them. In effect, Mr. Kerry would put a ton of money on the table to help Detroit move from the comfortably profitable world of S.U.V.'s to a riskier universe of gas-electric hybrid cars.

He would also lavish billions on a large and aggressive "biofuels" program that would seek gasoline substitutes not only from corn - the basis of today's narrowly based ethanol program - but also from a whole range of agricultural products. Some experts believe that such cellulosic fuels could eventually replace one-quarter of the gasoline used today and could also provide an income stream for farmers when the cushy export subsidies that now distort world agricultural markets come to an end.

Reducing oil dependency is one big part of the Kerry plan. Learning to live with coal is the other. For all the talk about alternative fuels like wind and solar power, which both Mr. Kerry and Mr. Bush endorse, coal remains central to the American economy. It produces 56 percent of the nation's electricity, and its role is likely to grow as prospects for big new natural gas discoveries shrink. (Nuclear power has its enthusiasts, though judging by the few noncommittal paragraphs in his energy plan, Mr. Kerry is not among them). Yet coal is also a big contributor to smog, acid rain, mercury pollution and global warming. So Mr. Kerry would crank up the subsidy machine again to develop and deploy new technologies that strip the coal of pollutants before it is burned and, in the case of carbon dioxide, inject them into the ground.

President Bush can fairly claim to have endorsed most of these ideas. But Mr. Kerry is offering more muscular programs and, if words mean anything, a more robust commitment to seeing them through. Mr. Bush's tax incentives are too small to make much difference to the automakers or to consumers. His clean coal program has been slow off the mark. And while he has expanded research into hydrogen-powered cars - a potentially useful technology that Mr. Kerry also endorses - Mr. Bush has used hydrogen's long-term promise as an excuse to let Detroit off the hook now.

Even the president's more innovative ideas are secondary to his dominant strategy of ramping up production of oil and gas, the centerpiece of which is his proposal to open up the Arctic National Wildlife Refuge for drilling. This strategy of emphasizing energy production over energy efficiency had its roots in Vice President Dick Cheney's famously secret energy task force in 2001

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and reached full flower in two dreadful energy bills. Mr. Kerry opposed the Senate version, and his campaign literature explicitly rejects drilling in environmentally sensitive areas.

On two counts, Mr. Kerry's program is irritatingly disingenuous. As a candidate for the nomination, he was openly proud of his Senate vote to require a 50 percent increase in fuel economy standards. As a presidential candidate, however, he has reduced this ambitious but achievable goal to a softer (and, to Michigan voters, much less threatening) pledge to "update and strengthen" fuel standards.

As a candidate for the nomination, Mr. Kerry also described climate change as the world's "most serious environmental challenge." Global warming, he suggested, was at least as important a reason for reducing fossil fuel use as ending dependency and bringing down prices at the pump. But his recent literature mentions climate change only in passing, and fails to mention at all his vigorous support for legislation that would set strict caps on emissions of carbon dioxide, the main global warming gas - legislation that Mr. Bush opposes.

One can understand Mr. Kerry's wish to avoid the subject of emissions caps in coal-producing states like West Virginia, where caps are controversial. But he knows that without regulatory limits on greenhouse gases, industry is less likely to develop and deploy the technologies that he hopes will lead us all to a leaner and cleaner energy future. The same can also be said of stricter fuel economy standards. History shows that progress on energy issues usually requires sticks as well as carrots, and to pretend otherwise rings false.

Blair Warns of Climate Change's Threat

NYT, September 15, 2004

Prime Minister Tony Blair warned on Tuesday of the threat posed by climate change and urged support for the principles of the Kyoto accord on global warming, a treaty rejected by President Bush as unfair toward U.S. industry.

Blair promised to make global warming a focal point of Britain's presidency of the Group of Eight summit next year and said he will push for greater international commitment to cut greenhouse gases.

In a keynote environment speech in central London, Blair noted that the United States had refused to sign the 1997 Kyoto Protocol, which aims to cut carbon dioxide emissions. But he suggested Washington's position was softening and that it now accepts the scientific arguments behind climate change.

"Climate change will be a top priority for our G-8 presidency next year," Blair said. "This remains an issue of high and fraught politics for many countries. But it is imperative we try."

The prime minister said he would seek agreement among the G-8, of which the United States is a member, on the threat posed by climate change and a "process to speed up the science, technology, and other measures necessary to meet the threat."

The world needs a "new green industrial revolution" to tackle the crisis that is seeing temperatures rise, glaciers melt, and sea levels rise, he said.

Blair said he would also seek a commitment from countries outside the G-8, notably India and China, to cut greenhouse gases and said he was encouraging Beijing to take a leading role in addressing the issue.

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Britain's energy strategy unit has advised ministers that nuclear power must play a major role if Britain is to meet the requirements of the Kyoto Protocol. Blair said his government has not ruled out building new nuclear power stations but knows it must reassure people about costs and safety.

Washington rejects the Kyoto accord, which aims to cut carbon dioxide and other greenhouse gas emissions worldwide to 8 percent below the 1990 level by 2010. The United States says the cuts would be harmful to the economy. It has also questioned the science behind the restrictions proposed in Kyoto, and called for more studies.

But Blair said Britain had proved it can have a growing economy while addressing environmental issues.

``Between 1990 and 2002 the U.K. economy grew by 36 percent, while greenhouse gas emissions fell by around 15 percent," he said.

Ford lost its green machines

Seattle PI, September 15

On Aug. 16th, Bill Ford Jr., chief executive of Ford Motor Co. and a self-proclaimed environmentalist, wrote to California Gov. Arnold Schwarzenegger to lobby for a veto on a bill encouraging more fuel-efficient and low-emission cars on California's highways.

The move came as a shock to industry observers who have been watching Ford rack up environmental credentials in 2004, culminating in the much anticipated (and long-delayed) release of the first American-made gas-electric hybrid vehicle, the 36 mpg Escape hybrid sport utility vehicle.

As the dust clears from the heavy marketing of the Ford hybrid SUV a different story appears; the company plans to build just 20,000 hybrids in the next model year, less than six-tenths of one percent of its total U.S. fleet production. When the Environmental Protection Agency announced automaker fuel economy rankings earlier this year, Ford finished dead last among the country's top six automakers -- a dubious honor the company has held five years running. Indeed, Ford's reign as America's biggest oil addict may be a long one. Earlier this summer, Ford quietly canceled its cleaner natural gas vehicle program. Ford is also crushing its innovative electric vehicles -- a fleet of almost 3,000 cars and trucks, nearly all in California, that are safe, produce zero emissions, and are wildly popular with their owners.

And now, adding insult to injury, Ford is lobbying against California's latest fuel economy incentive.

The reason? It happens that the legislation, passed in both houses of the Legislature, sets a standard that no Ford vehicle currently meets, save those EVs that it's currently taking off the highways. California is offering carpool lane access to vehicles that 1) use hybrid electric technology; 2) have zero or extremely low emissions; and 3) that achieve fuel economy of at least 45 mpg. Rather than build cars that meet America's highest fuel efficiency standards and are the least polluting in the country, Ford is lobbying to change the rules. No wonder the Los Angeles Times calls Bill Ford an environmental "girlie-man."

Has Bill Ford Jr. lost touch altogether? Oil prices have reached record highs in 2004. Even with thousands of dollars in incentives Ford can hardly sell its gas-guzzling SUVs. Conflict in the Middle East is causing Americans to wonder whether we can afford the true cost of our oil dependence.

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The receding glaciers in our national parks, the melting polar ice caps, and the intensity of storms battering residents in Florida all offer testimony to the deadly risks of inaction. Even a January 2004 report from the Pentagon's Office of Net Assessments considers catastrophic climate change a greater national security threat than terrorism over the next 15 years.

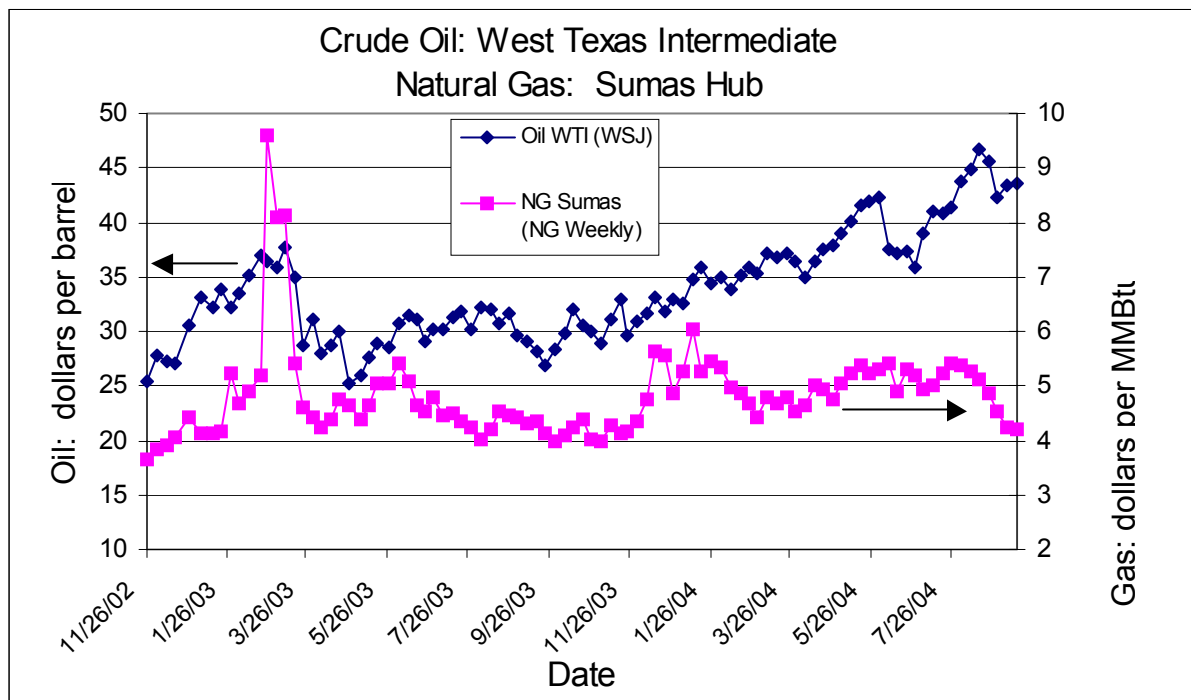
What the world needs in 2004 is a dramatic shift away from our oil addiction. It's time for Ford Motor Co. -- and all automakers -- to implement visionary innovation on a grand scale. Rather than lobbying to lower state incentives and producing a few token hybrid vehicles, Ford should get out of last place for fuel economy for major automakers and put a hybrid engine in every vehicle. Rather than killing its EV program over the objection of EV drivers, Ford should set a timeline to manufacture a full fleet of zero emission vehicles by 2020.

We can do better. Studies have shown that increasing America's fuel economy to 45 mpg (the same level as the California incentive that Bill Ford Jr. is arguing to lower), we would save more than three million barrels of oil per day, which is more than we import from the entire Middle East.

It's time to revive the American spirit of innovation. A country that cured polio, put a man on the moon, mapped the human genome and doubled life expectancy in the 20th century can surely figure out a way to make clean cars in this one.

It's time for Ford to get itself into gear and lead us forward.

Crude oil spot prices have declined from the August highs of near 50 dollar per barrel, but remain in the mid 40 dollar range. Natural gas spot prices have declined steadily for the past six weeks as underground storage reservoirs used to meet winter heating demand have been filled ahead of schedule.



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- Power Pool peak load (Tuesday, 9/28): 43,334 MW
- Reserve margins were within comfortable ranges for Northwest Power Pool utilities.

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- “Normal” price range, before 5/00 \$20-\$40 per MWh
- Petroleum, West Texas Intermediate: \$49.90 per barrel (year ago: \$28.40)
- Seattle gasoline price (9/28) \$2.04 per gallon (year ago \$1.85),
- Natural gas, Sumas Hub: \$4.67 per million British Thermal Units (year ago \$4.00)
- Approximate change from last week. Oil: +2.80 \$ per barrel; Nat. gas: +.41 \$ per MMBtu

3. California Electricity Situation

- CA ISO Alert Status
 - o July 22, 2004: Third consecutive day of record electricity use.
 - o A stage 1 alert, due to an unexpected heat wave, was declared on Mar. 31, 2004.
 - o 20 minute outage in So. Cal. on March 8, 2004 due to operator error.
 - o Most recent rotating blackouts: Tuesday, May 8, 2001

4. Energy News Headlines from around the Nation

- o Stakes high as state targets greenhouse gas from cars (LA Times, Sept. 25)
- o GAO Finds BPA's "Open-Ended Obligation" to Provide Power Root of Rising Costs (Northwest Public Power Assn. Times, Sept. 25)
- o Wind tax credit breezes through congress (UtiliPoint International, Sept.27)
- o Schwarzenegger signs bill allowing hybrids in carpool lanes (LA Times, Sept. 24)

5. River and Snow Pack Information (Updated: Sept. 8, 2004)

- Observed Aug stream flow at The Dalles: 86.1% of average,
- Observed July precipitation above The Dalles: 75% of average,
- Observed Jan.-July runoff at The Dalles: 83 MAF, 77% of normal,
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- Average flow of power during the last 30 days
 - o California (exported to) 2,894 MW
 - o Canada (exported to) 1,353 MW
 - o Net power export: 4,247 MW

Stakes High as State Targets Greenhouse Gas From Cars

Other states could copy a successful effort. Legal challenges from carmakers are likely.

By Miguel Bustillo, Sept. 25, L.A. Times Staff Writer

California, long a leader in cutting-edge rules to combat air pollution, is poised this week to adopt the world's first regulation to reduce car emissions that contribute to global warming.

The state's latest attempt to be an environmental trailblazer is almost certain to bring a legal challenge from the automobile industry, which accuses the state of using global warming as an excuse to set a new gasoline mileage standard for the entire nation.

It also sets up a confrontation between Gov. Arnold Schwarzenegger and the Bush administration over the scope of the state's authority to regulate cars.

California alone cannot reduce global warming. The state emits less than 1% of the heat-trapping gases — chiefly carbon dioxide — that many scientists believe are raising the planet's temperature. Only about a third of the state's emissions come from cars. California makes up about 11% of the national automobile market.

However, state officials expect other states — and perhaps other countries — to follow their lead by passing car-exhaust restrictions, combining to make a collective dent in the global warming problem.

Several states, including New York and New Jersey, have indicated they plan to do just that, using a federal law that allows other states to adopt tougher air-quality rules if California does so first. Canadian officials are also studying California's regulation as a prototype for their own rule.

The regulation would require automakers to begin cutting greenhouse-gas emissions in passenger vehicles in the 2009 model year. The requirements would grow steadily tougher over seven years. By 2016, companies would have to reduce the heat-trapping gases from the tailpipes of all their cars and trucks by an average of 29%.

The rule could prove to be one of the most expensive environmental regulations ever for consumers. Californians would likely pay roughly \$1,000 more for every new car and truck, state officials estimate. Auto industry representatives maintain that the cost would more likely be \$3,000. The expense would be offset, in part, by lower fuel costs from better gas mileage.

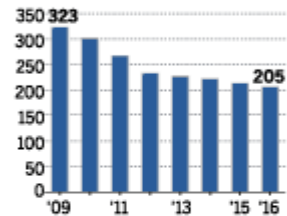
Environmentalists are already hailing the global warming rule as California's greatest contribution to cleaning up the planet since the state forced car companies to install pollution-cutting catalytic converters four decades ago, leading to their adoption across the country and around the world.

Graphics

Exhaust gases

The California Air Resources Board's proposal would phase in standards for carbon dioxide and other greenhouse gas emissions from passenger cars and smaller trucks starting with the 2009 model year.

Proposed emission standards:
(in grams of CO₂ equivalents* per mile)

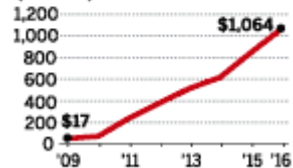


*CO₂ and other gases that produce an equivalent amount of warming.

Estimated cost increase:**

The changes required to comply with the new standards would raise the cost of vehicles.

(in dollars)



**Per vehicle compared to 2009 baseline, fleet average for six major automakers.

Source: California Air Resources Board

Los Angeles Times

September 23, 2004

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Some business groups, meanwhile, are calling it the biggest California boondoggle since the state in 1990 made the same companies invest millions of dollars in electric car technology that never panned out.

"We are rather fatalistic at this point," said Fred Webber, president of the Alliance of Automobile Manufacturers, a group of nine automakers that includes General Motors, DaimlerChrysler and Toyota. Webber said he spoke to Schwarzenegger's environmental protection secretary, Terry Tamminen, and other state officials recently, and concluded that "there is a sense this is going to happen."

"If California goes forward with this rule, we will have no option but to sue," he added.

Schwarzenegger, who promised to support the global warming rule during his election campaign, made it a litmus test recently when appointing five new members to the California Air Resources Board. The board is expected to approve the regulation today or Friday during a meeting in Los Angeles.

The technology needed to cut the heat-trapping gases — such as variable-speed transmissions that constantly shift to find the most efficient gear — is already in use in some cars, helping to improve fuel efficiency and overall performance. But it costs more.

For example, a no-frills 2005 Honda Civic coupe has a suggested retail price of \$14,360. The same car with a variable-speed transmission costs \$14,860. To meet the new California regulation, car companies would likely need to offer several such technological enhancements as standard items.

While the regulation would clearly raise the cost of buying a car, state officials maintain that its requirements would be simpler for the auto industry to meet than many other state environmental regulations.

"We have pushed technology very hard before" with electric cars, said Tom Cackett, the air board's deputy director. "But we are really not pushing the envelope this time. We can point to every technology that is needed to make these reductions on some car out there today. We are not requiring any new inventions."

State officials argue that although consumers will pay more up front, they will save money in the long run because the vehicles will get better gas mileage. Automakers call that questionable, noting that using the state's own calculations, it would take more than a dozen years of driving to recoup the extra cost.

"The auto companies have done everything but say, 'We'll see you in court, buddy,' " said Roland Hwang, a car pollution expert with the Natural Resources Defense Council, one of the environmental groups supportive of the rule. "They did not engage in negotiations with the air board, which is typically what happens in these cases. They are just complaining, complaining, complaining."

In response to the complaints from auto manufacturers, state officials agreed last month to give car

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companies extra time to meet the rule's requirements. They also raised their cost estimates from \$626 to \$1,064 for cars, smaller trucks and SUVs.

Nonetheless, industry officials say the state is using global warming as a fig leaf to force car makers to set new fuel economy standards, which only the federal government has the legal authority to do.

The easiest known way to reduce carbon dioxide emissions from cars and trucks, industry officials say, is to build vehicles that burn less fossil fuel, because the vast majority of the gases from cars are released during internal combustion.

Some legal experts believe the industry has a strong case that the state rule would amount to a new de facto fuel standard for the entire country. "There's a huge preemption question on whether California will be able to regulate greenhouse gases," said Ann Carlson, an expert on state and federal environmental law and associate dean of the UCLA School of Law.

Environmentalists disagree, arguing that carmakers have other ways of reducing greenhouse gas emissions. They include using alternative coolants in more air-conditioning systems and producing more gasoline-electric hybrid vehicles.

"The state is regulating greenhouse gases, not fuel mileage," said Russell Long, executive director of the environmental group Bluewater Network, which helped write the state legislation that resulted in the rule. "We challenge the auto industry, which has been trying to project a greener image, to send its lawyers home and put its engineers to work. When will they support regulations to slow global warming's impact?"

California also faces a major hurdle in obtaining approval from the federal government to enact the global warming regulation.

Because it was regulating air quality long before the federal government passed the Clean Air Act, California is the only state that has the power to pass air pollution regulations that are stronger than those set by the federal government.

However, California must still apply for a waiver from the Clean Air Act to move forward with its own rules. To obtain the waiver, California must show a "compelling and extraordinary" reason that the state needs special rules — something easily demonstrated on smog but harder on an international problem such as global warming, skeptics note.

The Bush administration to date has chosen not to take action on global warming. President Bush promised during his 2000 election campaign to cut carbon dioxide emissions from power plants. But he later changed his position, arguing that the regulations would harm the economy.

The U.S. Environmental Protection Agency, which must rule on California's waiver, ruled last year that carbon dioxide was not a pollutant, and thus could not be regulated under the Clean Air Act. Several states, including California, are challenging that ruling in federal court.

EPA officials have declined to comment on the state's global warming rule, saying they will wait

until they receive the waiver request.

"There are a lot of officials around the country who would like to fill the void created when the federal government decided to bury its head in the sand on global warming," said Assemblywoman Fran Pavley (D-Agoura Hills), who sponsored the legislation creating the California rule. "The automobile manufacturers made similar hysterical threats when the state required catalytic converters, and now those are found in cars all over the world. I know they can do this."

GAO Finds BPA's "Open-Ended Obligation" to Provide Power Root of Rising Costs

Sept 25 Bulletin. Northwest Public Power Association

BPA's most important advantage, according to GAO, is its ability to market power produced primarily from 31 hydroelectric dams in the federal power system, which generally have lower overall costs, compared to power produced by other sources.

On August 9, the U.S. Government Accountability Office (GAO) issued a report attributing many of the Bonneville Power Administration's (BPA) financial problems to its "open-ended legal obligation" to provide wholesale power to preference entities in the Northwest. The report, entitled *Bonneville Power Administration: Better Management of BPA's Obligation to Provide Power Is Needed to Control Future Costs*, detailed causes of BPA's cost and rate increases over recent years, and concluded that the cost of acquiring power on behalf of utilities must be controlled lest the agency risk losing its competitive edge and, potentially, default on payments to the U.S. Treasury - a position BPA, and many regional stakeholders, agree with. The federal report will likely give a boost to ongoing regional discussions about the future of BPA and lead to resolution of long-simmering power supply and pricing problems.

The Report

The report was done at the behest of the House Appropriations Committee's Energy and Water Development Subcommittee Chairman David Hobson (R-Ohio), who has historically been critical of BPA. Given BPA's current financial situation - BPA has lost \$300 million in fiscal year (FY) 2001 and 2002, resulting in cash reserves falling from \$811 million at the end of FY2000 to \$188 million at the end of FY2002 - Hobson asked GAO to assess: "(1) the advantages and disadvantages BPA faces in marketing electric power in a more competitive environment, (2) the major causes of BPA's recent cost increases, and (3) the extent to which BPA is taking actions to control its costs."

The GAO, commonly referred to as the "investigative arm of Congress" or "congressional watchdog," is an independent and nonpartisan agency that conducts studies, audits federal expenditures, and issues legal opinions on the programs and expenditures of the federal government.

The GAO found that, while BPA enjoys inherent advantages that enable it to provide low-priced power, its "open-ended obligations are a competitive disadvantage" that have led to increased costs.

BPA's most important advantage, according to GAO, is its ability to market power produced primarily from 31 hydroelectric dams in the federal power system, which generally have lower overall costs, compared to power produced by other sources. The report notes that BPA, as a federal agency, also enjoys certain financial advantages, such as access to federally-financed debt and the rating agencies' perception that BPA debt is backed by the U.S. Treasury.

However, despite these advantages, BPA's costs continue to rise. GAO attributes this chiefly to the legislative mandate under the Northwest Power Act which charges BPA with being the "net provider" of wholesale electricity in the region - i.e. BPA must meet the power needs of all utilities in the region to the extent that the utilities' own generative resources are insufficient to meet the demand of their retail customers," regardless of whether BPA has sufficient installed generating resources to meet that demand.

In recent years, the demand for Bonneville's power has far outreached supply - attributable both to public power's increasing demand for power and BPA's decision to provide money or power to the investor-owned utilities. To meet these obligations, BPA has had to purchase more expensive power from other sources to meet the demand. While BPA's over-commitment to supply power to customers has contributed to its high rates during the current rate period, compounding this situation is the fact that BPA's current rate structure does not take into account demand and supply issues. According to GAO, "BPA's rate structure also contributed to the increase in demand and increased costs, because BPA did not charge incremental rates equal to its costs of acquiring additional power and therefore did not give customers adequate incentives to conserve or seek power from alternative sources." As population and demand in the region continue to rise, this too will continue to be problematic.

Additional statutory obligations that contribute to BPA's disadvantages include increased costs associated with providing financial benefits to certain customers of regional investor-owned utilities (i.e. the "regional exchange"), protecting fish and wildlife, and constraints associated with the multiple use nature of the dams (e.g. water diverted for irrigation or fish spill). In addition, drought conditions have also increased BPA's costs in recent years.

GAO Recommendations

The report credits BPA for taking certain actions in order to reduce costs and also control certain other ones. For example, BPA has taken steps to improve its risk management process, capped what the Northwest Power and Conservation Council spends on its fish and wildlife direct program, and reduced certain internal expenditures. In addition, BPA has begun to address its "open-ended obligation" issue by issuing a draft strategic plan which attempts to outline how much power it will provide to its customers, and at what prices, starting in FY 2007.

However, GAO finds that these efforts alone are not enough, and the report makes the following recommendations in order for BPA to avoid defaulting on Treasury payments:

- * BPA must define the rights to purchase the firm output of the federal power system so that "the amount of power that BPA sells at its lowest, cost-based rate is equivalent to the firm output of the existing federal power system";
- * Implement a rate structure that ensures that "customers who demand additional power from BPA are charged incremental rates that fully reflect the additional costs BPA incurs in acquiring or otherwise providing such power"; and
- * Finally, because of the changing business environment due to industry restructuring, BPA must identify specific activities, resources, and time frames to implement new risk management initiatives.

"The GAO and BPA see the root cause of our challenges very similarly," said BPA Administrator Steve Wright. "Consequently, we are generally aligned on the strategic direction we should take to benefit the region's ratepayers and the nation's taxpayers."

Regional Response

Reaction by public power preference customers in the region has been supportive of many of findings in this report. Many of the utilities have been actively involved in BPA's "Regional Dialogue" to discuss the future of Bonneville, including its contract and rate policies, in preparation for adopting new rates in FY 2007. Current wholesale power sales contracts expire in 2011, but new 20-year contracts could be negotiated before then. Bonneville believes it is important to get input and "buy-in" from regional stakeholders before moving ahead with these dramatic changes in its power marketing policy.

Many of Northwest Public Power Association's (NWPPA) members have been actively engaged in the Regional Dialogue because of the escalating rates and need to get them under control. According to Will Lutgen, NWPPA's executive director, "BPA's oversubscription of the system and open-ended obligation to provide power to its customers has contributed significantly to the rise in power costs. This rate increase is a hardship for many NWPPA members."

Steve Johnson, executive director of the Washington PUD Association agrees. Says Johnson of the GAO report's findings, "The Association agrees with the conclusions of the GAO report, which is the reason the Association has taken the strong position that the BPA system should be allocated among its public power customers. BPA should not acquire additional power resources except at the specific request, and cost/risk analysis, of individual customers."

Similarly, the Public Power Council (PPC) has been supportive of the regional discussions. "The Public Power Council has unanimously voted to endorse a future allocation of the Federal system. Given current regional load and the size of the system, we have a unique opportunity to provide all parties with much needed resource certainty and predictability, improve cost control and promote development of additional resources in the region. But the devil is in the detail and PPC is working on overdrive to design an allocation system that meets the needs of all regional public power systems in a manner that is fair and equitable," says Jerry Leone, PPC manager.

The GAO report points to this Regional Dialogue as a beginning step, but notes that it does not provide enough detail in its plan and is skeptical that it will actually be implemented. The GAO report points out several failed, past attempts by BPA to revamp its rate structure, mainly because of BPA customer opposition. Many in the public power community share this skepticism, acknowledging that "the devil is in the details" of any plan to change Bonneville's power marketing and pricing policy. It appears, however, that this recent report and general agreement among stakeholders may be enough to, finally, produce real results.

Wind Tax Credit breezes Through Congress

Ken Silverstein, Sept. 27, UtiliPoint International

While the energy bill is still on life support, a key provision that extends the tax credit to the wind sector was stripped and attached to legislation that passed the House and Senate last week. The president has said he will sign the bill. While the broader legislation is generous to the nuclear, coal and natural gas industries, lawmakers also gave a nod and wink to the renewable sector. In the end, the pressures to enact the credit became intense because so many projects and jobs depend on it.

The 1.5 cents per kilowatt-hour (kWh) for electricity generated from wind turbines in the first 10 years of operation has contributed to the development of wind energy. That credit, now 1.8 cents

per kWh after adjustments for inflation, is also critical to new projects hoping to win financing from lenders. The credits have now been extended until 2006, with a middle class tax bill used as the vehicle to pass them.

"Enactment of these incentives is absolutely imperative to curb our dependence on energy imports, reduce rising oil and natural gas prices, and cut the growing emissions of greenhouse gases," says Ken Bossong of the Sustainable Energy Coalition. The failure to approve these measures would have cost quality American jobs, crippled new basic domestic industries and perpetuated the economic recovery, he adds.

Worldwide, about 40,000 megawatts of utility-scale wind turbines are installed today—0.4 percent of the world's electricity demand. Europe makes up about 30,000 megawatts and the United States comprises roughly 6,300 MW, 1,687 of which were added last year, all according to the American and European Wind Energy Associations. Ultimately, proponents of wind power say that the fuel source can capture as much as 10 percent of the electric generation market in the United States within 20 years.

Despite the bold predictions, the challenges to a significant expansion of wind are considerable. Wind farms, for example, are generally more expensive to build than fossil-fueled generation. The Department of Energy says that roughly 80 percent of the cost of wind projects is the machinery, with the balance being site preparation. But, with the tax breaks, the cost per kilowatt hour is now competitive with other fuel sources, at about 5 cents per kilowatt hour.

Take MidAmerican's plan to build a 310 MW wind project in Iowa . The company says that plant is expected to generate electricity at a cost of 4.2 cents a kWh. That compares to 4.1 cents per kWh for a coal facility, it says, although the price of the wind facility includes the federal tax credit and does not include the cost for backing up the facility when the wind is not blowing. Meanwhile, the company must also link the wind projects to new transmission lines. The company had said if the wind production tax credit was not renewed, it might have had to cancel the project.

Supply Chain

"This action by Congress and the expected signature of President Bush mean that about \$3 billion in wind energy investments forecast over the next several years are now back on track across the country," says Tom Gray, deputy executive director for the American Wind Energy Association. "More importantly, hundreds of furloughed wind industry employees can now go back to work building and installing new high-tech wind turbines."

The nearly 1,700 MW of new wind power installed by the wind industry last year brought \$2 billion of new investment to rural areas of the country. Most industry participants predicted that 2004 could have been an even better year than 2003 had the production tax credit not expired. The damage to the industry from letting the credits expire has affected companies all along the supply chain: fiberglass manufacturers that make wind turbine blades; makers of other components such as towers, generators, and gearboxes and trucking companies that haul turbines to new wind farm sites.

If the wind industry were to consistently grow at a rate of 18 percent per year, the wind association says that 6 percent of the nation's electricity could be generated by wind power by the year 2020, resulting in over \$100 billion of investment in rural America where such farms are built. Over the last five years, U.S. wind capacity has expanded at an annual average rate of 28 percent, showing that the supply chain can ramp up quickly to meet the nation's power needs. Without a tax credit, however, installations suffer.

In North Dakota , for example, more than half the employees at West Fargo-based DMI industries, a manufacturer of wind turbine towers, were laid off as a direct result of wind credit lapse. In Texas , Lone Star Transportation of Fort Worth would have lost as much as \$1.5 million in revenue per month because of project delays. In 2002, 20 percent of Lone Star's revenues came from wind energy, with the trucking of wind turbine blades, towers and generating units to development sites.

The industry's fate may be even brighter because of high oil and natural gas prices, as well as the emphasis on cleaning the environment. Meantime, European countries such as Germany have emphasized renewable energy while developing nations such as India that have suffered energy shortages must rely on generation sources that are less capital intensive than coal or natural gas. More appeal means more capital flowing into the industry. That would help speed up its evolution by making technologies better. Efficiencies would then improve and costs would drop.

If wind generation gains in popularity, then construction of new plants would also necessitate innovative ways to finance them. To date, most deals are funded by the sponsors of projects or with bank loans. During 2003-2004, however, two wind projects have turned to the capital markets: FPL Energy American Wind and Max Two, says Standard & Poor's. Those projects attained investment-grade credit quality. Still, wind variability combined with high debt leverage, have been and will remain the key obstacles to getting and maintaining such high ratings.

Important Matter

"If high oil prices continue, the competitiveness of wind versus traditional energy sources could improve significantly," says S&P analyst Jan Willem Plantagie. "Wind power remains often more expensive than traditional energy sources, however, although it is becoming increasingly price competitive. Over the last five years, the financial support for the sector has largely been driven by governments' commitments to reduce emissions of greenhouse gases to levels under the Kyoto protocol. Support from tax subsidies, renewable certificates, or subsidized prices remains important."

The broader energy bill is no doubt contentious, given its emphasis on fossil fuels and nuclear power. By acknowledging the importance of the production tax credit and working to enact them into law, Congress will facilitate the development of the wind industry. It's a policy direction that is positive and which will invariably lead to newer and more innovative ideas that are good for the environment and good for the economy.

Gov. Signs Bill Allowing Hybrids in Carpool Lanes

■The bill allows up to 75,000 hybrids to obtain decals from the state to use carpool lanes without needing one or two passengers.

LA Times Sept. 24 From Associated Press

Rebuffing lobbying by the chairman of the Ford Motor Co., Gov. Arnold Schwarzenegger signed a bill today that will let thousands of single-occupant hybrid vehicles to carpool lanes, which supporters hope will prompt more consumers to buy the fuel-efficient, low-emission cars.

"This bill is great for California," said the measure's author, Assemblywoman Fran Pavley, D-Agoura Hills. "It eases our commutes. It saves us money at the pump, reduces our dependency on foreign oil and cleans our air at the same time."

Wednesday September 29, 2004

The bill allows up to 75,000 hybrids to obtain decals from the state to use carpool lanes without having to have the minimum number of two or three occupants. Certain other advanced-technology vehicles could also qualify for the program.

California already allows battery- and natural-gas-powered vehicles and motorcycles to use carpool lanes without meeting the occupancy requirements. Hybrids run on a combination of gasoline engines and electric motors.

Petroleum futures prices traded at record prices at over \$50 per barrel for much of Tuesday before settling at \$49.90 per barrel. Several factors have contributed to the price rise over the last month: several hurricanes in the Atlantic and Gulf of Mexico, continued turmoil in Iraq, and more recently the threat of rebel attacks against oil installations in Nigeria. Natural gas prices are being pulled up slightly by the higher oil prices. Economic analysts are forecasting that sustained oil prices above \$40 per barrel will reduce US and world economic growth by at least 0.5 percent this year.

